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ADDRESSES AND ORIGINAL ARTICLES

HUGHLINGS JACKSON AND HIS INFLUENCE ON NEUROLOGY*

BY SIR E. FARQUHAR BUZZARD, Bart., K.C.V.O., M.D. Oxon., F.R.C.P. Lond.

REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD

MAY I claim some degree of propriety for the choice of my subject on the ground that within a few months, and before the next Schorstein lecture is delivered, the centenary of Dr. Hughlings Jackson's birth will come and go, escaping perhaps the honoured notice it *must* some day be accorded in the history of science? I have the late Dr. Schorstein's authority for saying "must" because he described Jackson as possessing the rare combination of gifts "that sets a man among the little band of whom are Aristotle and Newton and Darwin."

Gustave Schorstein

Dr. Gustave I. Schorstein, in whose memory this lectureship was founded, was born in 1863, a year distinguished in the history of the London Hospital by the election of John Hughlings Jackson to the posts of assistant physician and lecturer in physiology. Schorstein himself became assistant physician to the hospital in 1894, the year in which Jackson retired from active work as full physician after holding that office for 20 years. Thus only for a few years as a student, as a house physician, and as a medical registrar did Schorstein come directly in contact with Jackson's work, and I am not in a position to say to what extent the former's outlook on medicine was influenced by the greatest clinician of those days. However that may be, these two physicians, each of whose names is associated with and honoured by a lectureship, were widely separated in origin and in education, in their ambitions, and in their achievements.

Schorstein, a Jew, a graduate of Oxford, a freemason, a great lover of music and of all forms of art, endeared himself to his many pupils, patients, and colleagues by reason of his culture, his warm-hearted friendship, and the untiring enthusiasm and energy with which he sought to promote the interests and the reputation of his medical school. His early death at the age of 43 may have deprived him of the opportunity of linking his name with any notable contribution to the progress of medical knowledge, but it is recorded of him that "his clinical lectures were most popular and his literary abilities made them models of what such lectures should be, clearly thought out, logical and beautifully expressed, so that the most thoughtless could not help but learn."

The Personality of Hughlings Jackson

Much more could be, and has been, said and written of Gustave Schorstein, but to-day I am here to remind you of that other physician of your hospital of whose achievements in the wider world of science you and British medicine will always be justly proud. But before entering upon my task may I ease my conscience with two expressions, one of diffidence and one of exoneration. My feeling of diffidence is aroused by the recognition that the part of biographer has already been played with devotion and illumination by Dr. James Taylor, whose charming memoir must inevitably be consulted by all who seek intimacy with the work and personality of Hughlings Jackson. My exoneration for trespassing on that Boswellian field relies on the fact that from the day I left the nursery until I became his colleague on the staff of the National Hospital in Queen-square Jackson was one of the most familiar and outstanding figures in my domestic and professional life. And if Dr. Taylor's portrait of the man leaves little or nothing for another brush, the study of an old master may always bring to light new features of interest and instruction.

It would be futile, and perhaps unprofitable, to try, in so short a time, to describe how this, that, or the other of Jackson's innumerable contributions to medical literature influenced, both contemporaneously and posthumously, the development of our insight into the problems of neurology. On the other hand, there are lessons to be learned from a close inquiry into the make-up, the character, the methods, and the outlook of one of whom it was said by the late Dr. Mercier "No man ever had a better claim to the title of Genius." Even his habits and peculiarities, his whims and crotchets may help us towards understanding the powerful influence he exerted on those who were fortunate enough to come within its sphere.

A few bare facts must serve as an introduction to my more personal narrative. Born near York on April 4th, 1835, the son of a yeoman father and Welsh mother, he escaped all danger of over-education by attending two or three obscure schools before becoming apprenticed to one of the lecturers in the York medical school. After a short period of study at St. Bartholomew's Hospital, where Sir James Paget was one of his teachers, he returned to York, with the qualification of M.R.C.S. and L.S.A., to fill the post of house surgeon at the dispensary. In that capacity he learned to appreciate "the brilliant and stimulating speculations," a term so applicable to his own later efforts, of his physician, Dr. Laycock, who afterwards became professor of medicine in the University of Edinburgh. Returning to London in 1859 with an introduction to Sir Jonathan Hutchinson, he soon became attached to the Metropolitan Free Hospital, the National Hospital, Queen-square, and the "London," in that order, and at the instigation of Brown-Séquard at Queen-square began his investigations of neurological problems.

After a long engagement, Jackson was married in 1865 to his cousin, whose death in 1876 left him a childless widower for the remainder of his days. Dr. and Mrs. Jackson had formed an intimate friendship with my parents, and from the date of her death until the death of my mother 25 years later he was a constant, almost daily visitor at our house. And his visits were so unlike those of any other friends and so characteristic of the man that they formed a lasting impression on my mind. The ritual was almost unvaried and admitted of no variation without running the risk of frightening him away. He was, in regard to social amenities, intensely shy and completely embarrassed by anything approaching effusiveness or affectation of manner. We would generally be at luncheon; the door would open and Jackson would enter; no one would rise; he would pull a chair up to the table, exchange a few remarks, perhaps tell a humorous story with only a twinkle of the eye disturbing the solemnity of his features, and after five, perhaps ten, minutes, he would mumble

*Schorstein lecture delivered at the London Hospital on Oct. 18th.

something about remembering an engagement and leave the room. No one must rise or see him off the premises, but very often he would ask one of us children, generally my sister, to go for a drive. In that case the child in question would jump up and prepare for the outing in the shortest possible time so that he should not be kept waiting. Let me quote from my sister's recollections of these days:

"I was very young when I was first taken for drives in London by Dr. Hughlings Jackson. The loss of his wife had been a great blow to him and he was a lonely man. His quiet, rather reserved manner would not lead one to expect that the companionship of a child would be of much interest to him, but he constantly called for me, and took me with him—sometimes when he had professional visits to pay, sometimes to the city 'to buy a newspaper,' when he would leave me at Birch's sitting by a small table, and trying to get through a large ice before he called for me again. We did not talk much on these expeditions; he sat in one corner of the landau and I in the other. He sometimes read a paper—he was very short-sighted but did not use glasses—but I remember him chiefly leaning back in the corner of the carriage with his arms folded, and with a thoughtful, rather wistful, expression. He took no interest in his carriage and horses except as a means of transport, and when, as occasionally happened in frosty weather, one of the horses would fall and a crowd assemble he would barely look up from his paper and would calm my excitement with the words: 'This does not concern us; Brown (the coachman) will deal with it.' He was impatient in that he disliked being kept waiting—I think it would have been agony to him to sit and watch me eat those ices at Birch's—and I have seen him fidget on a doorstep if his ring were not answered at once. I never remember his showing any other form of impatience; he was always kindness and gentleness itself.

"He was a great novel reader and had an enormous admiration for Dickens, Jane Austen, and Trollope. He constantly quoted Dickens and used to refer quizzically to a mythical husband of the mythical Mrs. Harris, in 'Martin Chuzzlewit,' as representing what one might term the spirit of contrariness. For instance, on a wet day 'Mr. Harris has arranged that we shall not go to Richmond this afternoon.' I think only his intimate friends realised what a keen sense of humour and appreciation of wit was hidden beneath that grave, rather shy manner. He gave me all Jane Austen's novels when I fear I was too young to appreciate them as I do now. We had heated arguments over Fanny in 'Mansfield Park,' I declaring she was a prig, and he, teasingly, that she was his idea of feminine perfection. On a holiday he would buy 'yellow-backs,' and on one occasion at a bookstall on a pier he chose one of these, and immediately tore off both outside covers and then tore the book itself in two, putting one half in one pocket and the other in another. The face of the vendor was a study, whereupon Dr. Jackson made the Johnsonian remark: 'That man thinks I am mad, whereas it is the people who do not do these things who are mad.' He used to take me to the Old Westminster Aquarium, where we attended the performances of acrobats, of educated fleas, and of Zazel who was fired out of a cannon, with equal gravity. I have often wondered since what profound psychological ideas were the outcome of these queer entertainments. We also went to the Zoo—many times—and to the Crystal and Alexandra Palaces.

"He was engaged for years in writing what he always referred to as 'The Memorial' (referring to Mr. Dick in 'David Copperfield'), and if bored by an interview and anxious to get home, he would say gravely and quietly: 'I must now go and write the memorial.' An old friend of his and my father's, Mr. W. W. Fenn, the blind writer, sometimes drove with us. The noise and life of the city appealed to him as it did to Dr. Jackson, and the buying of a newspaper was made the excuse for expeditions to the Bank and the Royal Exchange. He had no particular taste for music or art in any form, he often admitted he could not distinguish the National Anthem from 'Rule Britannia,' but he liked going to the theatre, and he took me to my first play, *Uncle Dick's Darling*, in which Toole was acting. On that occasion he sat through the whole performance, but this he did very rarely. His natural restlessness made it impossible for him to remain in the same place for as long as three hours, so he would see one act at a time."

And so too at any remote spot in the country where we might be spending our summer holidays we would never be surprised to see Jackson drive up to the door in a carriage and pair, spend perhaps an hour and disappear with no intimation, and probably no knowledge himself, of where he would find himself on the following day. For many years he was a more or less regular attendant at our Sunday suppers; his place was always prepared but no notice was taken if he failed to put in an appearance, and he would never prolong his stay after the meal was over. His nature revolted against all binding engagements and if the bond was inevitable he was never happy until the engagement was fulfilled. For this reason he very rarely attended private dinner parties or public functions of any sort. On the other hand, a clinical investigation in which he was interested had to be carried out at once, and a book or paper in which he expected to find something pertinent to his line of thought at the time was always secured with the least possible delay.

My earlier recollections, therefore, have nothing to do with his professional life or his scientific eminence; I remember him in those days as the generous, kind-hearted but rather grave family friend or pseudo-uncle whose mind seemed to be in a state of constant conflict between his desire to give pleasure and his fear of being bored or bound. A much closer association with his intellectual side began when I became his clinical clerk and house physician in 1899 and continued until shortly before his death in 1911. As Dr. Taylor has said:

"I do not think it can be easy for anyone who was not brought intimately in contact with him to understand the feelings of reverent affection which all of the younger generation who had enjoyed that good fortune always entertained for the great personality of Hughlings Jackson. He was so simple, yet so stimulating, and extraordinarily careful of his words so that he might convey his exact meaning. No doubt this is the reason why his papers are so often overloaded with footnotes. I once heard him say with a smile that he was distressed to think that in speaking of a man as being covered with a rash from head to foot he had been speaking unscientifically, for what he should have said was 'from the tip of his nose to his perinæum!'"

The Development of Neurology: Jackson's Methods

In looking back on those years something may be learned from a study of the factors which combined to give Jackson the unique position he enjoyed among his contemporaries and pupils. To all appearances he was singularly detached from his surroundings; he would seem at first sight to live and move in a world of his own. But such a conclusion would be quite erroneous. Little or nothing escaped his observation, especially in his clinical work, but the faculty he possessed in an extreme degree of being able to separate essentials from non-essentials saved a remarkable memory from being overloaded with mere ballast. It was the same with his reading; he always appeared to absorb, almost from a glance at the cover of a book, all that really counted in its pages. Thus his mind was a storehouse of facts acquired at first or second hand, a mind, however, which in no other respect resembled a storehouse. Rather a hothouse in which everything was alive and growing and in which every new plant immediately found its natural place and associations. Not

natural to the casual and uninitiated onlooker, these associations were sometimes as incongruous, for instance, as that of punning with ocular paralysis and insanity. To him the study of three such different phenomena together was full of suggestion and profit, and his paper on the Psychology of Joking is not only characteristic of the way in which his mind worked but reveals startling premonitions of the trend of modern thought. As in the motor and sensory organisation of the nervous system he envisaged upper, middle, and lower levels, so in the "play" of the mind he recognised "puns," "witticisms," and "humorous statements" as representing three comparable degrees of evolution. Punning was to him a disturbance at the lowest level, in other words a kind of "mental diplopia." "We owe some respect," he added in his quaint but suggestive way, "to the first punster, because he had over and above mind required for mere animal existence some surplus mind for greater ends of life." Pursuing his theme of mental diplopia, the same paper contains these remarks which, we must remember, were written nearly 50 years ago:—

> "Whilst writing I suddenly think of York Minster. Here is manifest mental diplopia: (1) narrowed consciousness of my present surroundings, with (2) cropping up of consciousness of some quasi-former surroundings. Of course something, whether I can mentally seize it or not, in my present surroundings, has developed a similar something associated with York surroundings."

And Jackson wrote this before the "subconscious mind" had been invented!

If the modern psychologist is interested in such a statement the modern educationist might usefully recall this further quotation: "The process of all thought is tracing relations of resemblance and difference, from simplest perception—to say what a thing is, is to say what it is like or unlike—up to most complex abstract reasoning." And he finishes this paper which began with a consideration of various degrees of humour with these significant words:—

> "I submit that, recognizing the enormous difference between insanity and ocular paralysis, a profitable comparison and contrast may, nevertheless, be made, which will further a better knowledge of both. I do not mean simply that ocular paralysis may be taken as an illustration to simplify explanation of a case of insanity, but also that, both being examples of dissolution, the very same principles are displayed in each."

During the first 25 years of Jackson's active professional life neurology in this country, as well as abroad, was making rapid strides. He had as fellow labourers in the field men such as Brown-Séquard, Gull, Ferrier, Bastian, Gowers, and Ormerod, all engaged in gathering a rich harvest of clinical and pathological data from the bedside and the post-mortem room.

Jackson's pre-eminence in such distinguished company was due to the fact that not only had he no superior in the work of making detailed and accurate observations, but no real rival in the art of generalisation or, in other words, of integrating those observations so as to produce an harmonious design of the nervous system as a whole. I have already illustrated this gift in relation to a side issue such as that of joking, and I need not remind you of the revolutionary effects of his generalisations in regard to the localisation of cerebral function, of the light he threw upon the mechanism of speech, and of the supreme value of his analysis of convulsive states, whence arose "Jacksonian epilepsy." It is not enough, if we are to learn something from a study of Jackson's mind, to content ourselves with the remark that he had no superior in the work of making detailed and accurate observations. Let us see what this really means; let us realise how far his standards of accuracy, of self-imposed truthfulness, and of honest deduction rise above those of ordinary mortals and how little can anyone hope to emulate him without adopting his methods of recording clinical histories and of carrying out clinical investigations. I take, almost at random, this published note of Jackson's concerning a patient suffering from auditory vertigo:—

> *November 16, 1877.*—A man, 25 years of age, had his first attack of vertigo four years ago. He was taken when apparently quite well (he was playing cricket) with giddiness; he did not become insensible; he vomited; he had a noise in his left ear. He has since been deaf of that side, but whether he was so before his first vertiginous attack or not he cannot be sure; he has had a continuous "humming" or "buzzing" (he used both words) noise in that ear ever since. During the last four months he has had many attacks.
>
> At his first visit I had only his account of the paroxysm to go by. He said his attacks began by the left eye "being full of specks"; they were not bright nor coloured. Things (i.e., things in the room where he might be) began to pass to the right—he said "from his left eye over his nose." The same things kept passing continually in this direction; *reappearing* on the left, and again and again passing to the right: he did not see them *coming back*. He said that *next* he became giddy and vomited. There was one attack in which he declared that he lost consciousness; but apparently he really did not, as he said he knew people about him; he could not speak. This attack began suddenly: he was giddy, and vomited.
>
> About a fortnight later I saw him again. He had had but one slight attack—"a hot sweat." Whilst telling me that he had been better, he became suddenly ill. I led him to the sofa, as he seemed apparently unable to stand. He lay half-reclining on the sofa. He looked very ill, and said he felt giddy. I looked at his eyes about two minutes after he began to complain, or rather, I saw them moving, it not having exactly occurred to me to look at them. What I saw is, I think, exactly confirmatory of what he told me on the previous visit and of what he said after the seizure I witnessed. I asked no leading questions at any time. The pupils were very large, and the two eyes were in movement. Each eye was partially and very slightly rotated to the right in frequent jerks from left to right. The end of a mantelpiece was opposite him. I was much interested in hearing him *volunteer* the remark about the mantelpiece that "it is going in this way" (he jerking his hand from left to right to show what he meant). After the brief time taken in writing down the above observations—I wrote them down at once—I found that the eyes were still; the mantelpiece had, he said, ceased "going" to the right. The attack was not a severe one. I guess its duration at ten minutes; his pulse was not irregular. I did not however feel it throughout. Towards the end of the paroxysm he perspired; his temperature in the axillas was normal. There was no sickness.
>
> The observation was hurried. I had to attend to the patient as well as to observe his symptoms, but it is worth recording, if only to draw attention again to the desirability of making observations of the eyes during paroxysms of auditory vertigo. Things I should try to observe, had I another chance, would be more carefully the nature of the jerks—the number in so many seconds. I should ask the patient to tell me how things outside moved, being very careful not to let him know how I expected them to move. Then, after the jerking movements had ceased, I should note whether there were any "negative after-images." I made no inquiries in this case. It is possible that the mantelpiece might seem to be slightly moving in the opposite direction when the spasm was over. I ought to have tried to ascertain if my patient's eyes could move as far and as rapidly to the right as they could to the left. But in a bad case of auditory vertigo we should

not, I fear, be able, on account of the great prostration and misery of the patient, to make any precise observations.

The patient was much benefited, for a time at least, when the treatment advised for such cases by Charcot was begun—large doses of quinine. On Jan. 3rd, 1878, I prescribed four grains of quinine three times a day. On his next visit he said he had not been so well for four months. I saw him some months later; he said the quinine restored him wonderfully, and he took it when "a little queer." This queerness was "going a little giddy"; "things seeming to go" to the right. Moreover, he had had three stronger attacks.

Jackson adds a little later:—

"Several of my medical friends tell me, referring to my account of the paroxysm I witnessed, that the mantelpiece 'ought to have appeared to move to the left—in an opposite direction to that of the eyes.' That the eyes moved to the right I am sure; and the patient always told me that things passed to the right. I never asked him any leading questions. Until these objections were made, it never occurred to me that there could be anything incongruous betwixt his report and the direction of movements of his eye, and now I do not see anything discrepant."

These notes were published in *Brain* in 1880 when he could hardly have foreseen that the later part of his life was often to be rendered miserable by attacks of auditory vertigo associated with the usual accompaniment of deafness. But I have quoted at length in order to point a particular lesson. These notes are a model of what medical notes should be and almost always fail to be. He is so careful to depict in detail the circumstances surrounding an attack of illness, to describe meticulously, using the patient's own words, the nature of his symptoms and their sequence in time. He commits himself to nothing which he was unable to verify—"I led him to the sofa, as he seemed unable to stand": he had not actually tested the ability to stand. "His pulse was not irregular," but he adds "I did not feel it throughout." He lays as much stress on what he did not as on what he did observe and does not hesitate to blame himself for omissions in the vivid picture he has painted of an attack of vertigo. Emphasis on these features of Jackson's work are not untimely, because at the present day, 50 years later, the general standard of medical practice, and especially its diagnostic skill, would be raised out of all recognition if we could cultivate some measure of his enthusiasm for precision in observation and honesty in record. One can imagine that Jackson never committed himself to a statement without severe self cross-examination in regard to its truthfulness.

The Chief and His Juniors

Perhaps Jackson's personal influence on his juniors can be understood more easily if I give you the experience of any one of his house physicians at the National Hospital during the last 20 years of his life. Unlike those of his colleagues, his visits were quite unfixed in regard to time. They were frequent but irregular in their frequency, depending on his interest in some particular patient or problem at the moment. The ward-round was neither formal nor prolonged and it was impossible to predict to which case he would devote most attention. If one was foolish enough to remark that "this is just an ordinary case of hemiplegia" he might spend the next 20 minutes in demonstrating its unusual features or in explaining how such features illustrated one or other of his theories in regard to the evolution and dissolution of the nervous system. Perhaps, for instance, he would ask one to make observations in regard to the patient's respiration during sleep and compare the results with similar observations on other patients; he would never fail, at any rate, to stimulate one's interest by suggesting how the study of a simple clinical phenomenon could throw light on more obscure neurological problems. Quite suddenly his attention and interest would seem to fail; he would escape from the ward, but before we parted at the front door of the hospital he would say quietly "I will find you a reprint setting out my views on the subject we have been discussing, but you need not believe them—you know I have been called 'a Bedlamite theorist.'" And sure enough, perhaps the same day, certainly the next, he would leave some reprint or typescript extract of his own or of another author's contribution to the vexed problem. I still preserve scores of these, most of them annotated on their margins in a handwriting which, in some instances, I have not yet been able to decipher!

There was always something "left over" after one of Jackson's visits to the hospital, something provocative of further inquiry. One must not forget, too, his little bits of advice given with diffidence and no suggestion of patronage. "I would commend to you the practice," he would say, "of sitting in an easy chair, after the day's work is over, with a notebook on your lap, thinking of some subject which has recently excited your interest, allowing your mind to wander at random around it, and jotting down the speculations it may arouse." There can be no doubt that, from an educational standpoint, Jackson had a profound belief in what I might term "mental pseudopodism," in encouraging mental processes to grope, in the dark as it were, for points of contact with diverse and unripe fields of reasoning, in the hope of securing for the future serviceable, and perhaps profitable, paths of association.

Jackson's Profound Influence

Whilst it would be an act of supererogation to emphasise the importance of the part directly played by Jackson's writings in advancing our knowledge of the physiology and pathology of the nervous system, stress may well be laid on the indirect influence he exercised in these more personal ways on his disciples to the same end. To remind you that Henry Head, James Taylor, Risien Russell, Wilfred Harris, James Collier, Edwin Bramwell, Wilfred Trotter, Gordon Holmes, and Kinnier Wilson are only a few among the many names of those who regarded Hughlings Jackson as their leading light, suffices to prove that the passage of years has not weakened the drive of his inspiring personality or allowed his precepts to be forgotten.

A leading article in the *British Medical Journal* of 1931 contains these appropriate words:—

"It is 20 years since he died, and if personal memories linger only with comparatively few, the spirit which animated him is undying so long as it is reborn in those that come after him and find in his work an incentive and, in its emulation, a reward."

Here, in the London Hospital, such words cannot fail to recall to your minds the name of Henry Head, one of Hughlings Jackson's most faithful disciples and one who, more than any other, not only expounded but developed and enriched the doctrines of his master. Four years after Jackson's death Head published in *Brain* an invaluable review of the former's articles on Aphasia and Affections of Speech, wherein, in addition to digesting and summarising some 36 separate papers, he showed how long and how woefully their lessons had been neglected. In fact, it may be said, Head gave them a new lease of

life, transfused with his own clear and vigorous powers of exposition. It is a matter of infinite regret that for some years now Head's health has not permitted him to continue his own brilliant researches and to wear in public the mantle which so naturally descended to him on Jackson's death.

Perhaps Head revealed the secret of Jackson's genius for discovering those principles which now underlie all inquiry into disease of the nervous system when he wrote of his work on aphasia in these words:—

"He did not choose those cases which exhibited the most perfect conditions for experimental observation: he would watch a patient in the throes of delirium tremens as he tossed in the padded room, or listen to the laughter of a man with pseudo-bulbar paralysis, or the recurrent utterance of some partly demented aphasic, and from such observations would spring the luminous exposition of a principle. . . . He never failed to recognise that the phenomena of aphasia did not stand alone; they illustrated the same principles and were governed by the same laws as other functions of the nervous system. Above all, he insisted on the importance of remembering that dissolution occurred first in the most highly organised products of neural or mental activity, leaving the more lowly at liberty to express themselves freely in the resulting symptoms."

In conclusion, may I express my conviction that no estimate of the influence exerted by Hughlings Jackson on neurology and neurologists could be accepted if it failed to specify explicitly his inborn truthfulness, generosity, and gentleness, attributes which, with his keen sense of humour, made him one of the most lovable men of his generation.

THYROTOXIC HYPERTENSION

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THE purpose of this paper is to examine the common occurrence of thyroid toxæmia in patients with essential hypertension (hyperpiesia). We find this association so prevalent and so influential on the course, prognosis, and treatment that we venture to submit the term thyrotoxic hypertension as applicable. Hypertension is not yet much subdivided, largely owing to ignorance of its ætiology. Our title, though stressing a thyroid factor which is toxic, does not connote belief in its thyroid ætiology as might that of thyrogenic hypertension.

The full picture of thyrotoxicosis as in Graves's disease is of course well known; but the chronic and less obvious grades of thyroid disease are often overlooked. To these the term toxic goitre has often been applied, or even pathological terms such as parenchymatous, adenomatous, or cystic goitre. As there is a lack of correspondence between the clinical and pathological nomenclature, we prefer to use the simple term *goitre*. There are thyroid enlargements which never seem to produce demonstrable effects, and with these we are not concerned. Where symptoms are produced they are similar whatever the pathological process; at any rate, the histological changes cannot be correlated easily with the clinical varieties. Whatever the thyroid lesion of this noxious class, its effect upon the heart is the same: the degree of activity and the duration of the disease are more important than the pathological type. Tachycardia, a tendency to auricular fibrillation, and ultimate cardiac enlargement and failure may result from all forms—if they are severe enough and long enough continued. It is a common experience to find the heart affected when it was thought that a past exophthalmic goitre had been cured, or when a chronic goitre of 10 to 30 years' duration had been regarded as quiescent.

Assuming the unity of thyrotoxic affections of the heart and reverting to blood pressure, it is common knowledge that this is often influenced. In fully developed exophthalmic goitre Plummer [59] described a moderate rise in the systolic pressure with a normal or lowered diastolic pressure, and consequent increased pulse pressure. This was also the experience of Gallavardin,[18] and Taussig [61]; and it has since been generally confirmed.[60 13 14 38 65] In the forms where adenomata are associated with hyperthyroidism some writers have found both a higher systolic and diastolic pressure than in exophthalmic goitre,[61] though Hurxthal [24] suggested that the explanation may be the greater age at which this type of goitre commonly occurs. Treadgold [64] has recently shown that enlargement of the thyroid in healthy adults is associated with a systolic and diastolic blood pressure slightly above normal.

Besides this typical almost physiological effect of hyperthyroidism, it has sometimes been thought that permanent essential hypertension might be a consequence of thyrotoxæmia because of a specific effect on the vascular system. Plummer [59] felt that long-continued intoxication by a hyperplastic thyroid might lead to hypertension; and Gallavardin [18] also viewed toxic goitre as a possible cause. Goodall and Rogers [21] mentioned a late goitre stage where hypertension was accompanied by secondary changes in the cardiovascular system. They held that such patients were thereby rendered unsuitable for operation. On the other hand, Hurxthal [24] found no evidence of permanent hypertension in a careful analysis of 458 cases of toxic goitre. As we are not in a position to produce evidence sufficient to prove that there is a thyrogenic as distinct from a thyrotoxic hypertension, we will not pursue this subject further. But the frequency of thyrotoxic hypertension persuades us that thyroid toxæmia will some day be recognised as one of the sources of essential hypertension and not merely one of its concomitants.

Apart from this problem there is no doubt that they are frequently associated. Askey and Toland [1] found that more than half of 133 patients with toxic goitre (excluding exophthalmic goitre) had a blood pressure above 150 mm. Hg, systolic, and 110 mm. Hg, diastolic. Rosenblum and Levine [59] found a strikingly large number of cases of hypertension (23 in 42) among a series of patients with hyperthyroidism and gross cardiac involvement. The frequency of the association is also revealed in the papers of Lian, Skarika, and Thoyer,[37] Jones, Seabrook, and Menne,[26] Lerman and Means,[31] and Read.[54] Further, in deciding the effect of goitre in causing enlargement of the heart, the main difficulty is introduced by the patient suspected of or proved to have hypertension in addition. Parkinson and Cookson [47] found high blood pressure in 19 of their 130 clinical cases. Bach and Bourne [3] found a raised blood pressure in 14 of 36 cases and they considered that thyrotoxicosis may initiate a hypertension in individuals predisposed to it.

The combination of thyrotoxicosis and hypertension is more frequent if we recognise "masked hyper-

thyroidism," examples of which are now multiplying in the literature [33 52 34 22 19 49] and to which Towers [66] has recently drawn special attention. Such partial thyrotoxic syndromes may even be found without a demonstrable goitre,[5 66] though a thyroid not palpably enlarged may yet be palpably abnormal in its consistency. Although we might accept that a thyroid gland is never thyrotoxic if it is normal in size [35] and consistency, we are satisfied that a toxic thyroid gland may be so elusive as to be normal on clinical examination.[35] Hitherto such masked varieties have been held to account for certain forms of cardiac disorder and disease, now it appears that they must figure in the consideration of vascular disorder and disease.

If a goitre is affecting a patient with hypertension, it might be thought easy to establish the fact by determination of the basal metabolic rate (B.M.R.). Yet this is not so, because the B.M.R. is often raised in hypertension itself,[49 7 41 20 42] and especially if there is cardiac failure. Though in some of the cases quoted thyrotoxicosis was thought to be responsible, the influence of simple hypertension cannot be excluded. A greater objection is that the B.M.R. may be normal with a toxic goitre.[60 43 44 45 51 8] Coller [10 11] recorded several patients with cardiac abnormalities of rate and rhythm who had a goitre but a normal basal metabolic rate. Thyroidectomy abolished the cardiac abnormality without affecting the basal metabolic rate. Levine, Cutler, and Eppinger [32] have again emphasised that "not all the effects of the thyroid gland on the heart can be measured in terms of basal metabolism." They quoted F. N. Wilson who observed transient auricular fibrillation in patients with a normal metabolism and no goitre, but who later had a raised basal metabolic rate and a palpable goitre.

We are here more concerned with a relation between thyroid toxæmia and high blood pressure which has received less general recognition. There is a characteristic group of patients with hypertension combined with thyrotoxicosis. In 1919 Riesman [56] mentioned a variety of "non-goitrous thyrotoxic hypertension" occurring mainly in women about the menopause. His patients had neither a goitre nor exophthalmos, yet they were emotional and had palpitation, sweating, tremor, tachycardia, and both a systolic and diastolic hypertension. Gallavardin [18] mentioned this thyroid factor in patients with high blood pressure, for he thought that the tachycardia might mask the diastolic hypertension. Then Mannaberg [39] wrote of the frequency of tachycardia in hypertension uncomplicated by heart failure. He cited its special preponderance in women and indifference to digitalis, the concomitant sweating and glycosuria, a rise in the basal metabolic rate, and the not infrequent presence of a goitre as good evidence for its thyrotoxic origin.[40] The few prior opinions in the literature upon the source of tachycardia in high blood pressure had been that it was due to heart failure.[36 46] Kerpolla [27 28] found thyroid enlargement in one quarter of his female hypertensive patients, and of these about half had symptoms of exophthalmic goitre or thyrotoxicosis. Later Boas and Shapiro [4 5] described a small series of cases, like Riesman's, in which high blood pressure was associated with a raised B.M.R., and with tachycardia, nervousness, loss in weight, and pigmentation. But like Riesman they stressed the absence of a goitre and exophthalmos and remarked the absence of asthenia and tremor. They thought that these patients form a separate group to be distinguished not only from ordinary hypertensive cases but from goitre. Laufer [30] recorded four cases in which a goitre with a raised basal metabolic rate was associated with high blood pressure; and Glatzel [20] described others.

Some writers have looked upon the symptoms and signs we are ascribing to thyrotoxicosis as nothing more than products of hypertension itself or of hypertensive heart failure—a post instead of propter relationship we cannot accept. Hamilton and Beck [23] thought that hypertension may simulate all the symptoms of increased thyroid activity, even to the raised basal metabolic rate. Others [53] have been doubtful whether these symptoms were thyroidal or not. In a recent paper Kisch [29] thought that the special features of this group were to be attributed to heart failure and were really not due to thyrotoxicosis. He mentioned that they might also occur in failure from causes other than hypertension such as valve lesions. He also stated that the iodine content of the blood is not raised as it would be in exophthalmic goitre. These propositions appear to us wholly insufficient to disprove that the thyroid is a guilty participant. He fails to account for the frequency of a goitre in such patients, and as Mannaberg [39] rightly maintained, they often show tachycardia for years without heart failure.

ANALYSIS OF CASES

Our series consists of 100 patients who have been observed at hospital or in private practice during the last four years. All of them had established hypertension which in most was observed for many months. The salient features which emerged from the clinical analysis are given in Tables I. to IV.

TABLE I.—*Thyrotoxic Hypertension*

Analysis of 100 *patients with established hypertension combined with a goitre, tachycardia or fibrillation, and general evidence of chronic thyroid toxæmia.*

Sex	Females	91	
	Males	9	
Ages	Under 40 years	6	cases.
	41 to 50 ,,	26	,,
	51 to 60 ,,	42	,,
	61 to 70 ,,	24	,,
	Over 70 ,,	2	,,

PREVIOUS PRESENCE OF A GOITRE IN 68 CASES

Duration	For 1–5 years	20	cases.
	,, 5–15 ,,	13	,,
	,, 15–45 ,,	33	,,
	Doubtful	2	,,

Previous thyroid toxæmia (including exophthalmic goitre).

Present in	32	cases.
Absent in	16	,,
Doubtful in	20	,,

Previous thyroidectomy in 6 *cases;* though 5 subsequently thyrotoxic.

There were 91 females and 9 males. This striking disproportion is in contrast with what is usual in essential hypertension for there is generally only a moderate preponderance of females,[67 57 58 16] or none at all.[17] The ages ranged from 22 to 74 years, but all except 8 were between 41 and 70 years.

There was a previous history of a goitre in 68 cases, and in 33 of these it had been present for more than 15 years. In 32 there was good evidence that thyrotoxicosis had proceeded from the goitre in the past. Six had undergone a partial or subtotal thyroidectomy, but 5 of these had subsequently been thyrotoxic.

An analysis of the important symptoms is given in Table II. Dyspnœa and palpitation were the main cardiac symptoms, and in 23 the latter was based on auricular fibrillation—paroxysmal in 10 and permanent in 13. Symptoms referable to thyrotoxicosis were present in 94 patients, and of these the most important were weakness, loss of weight, nervousness, and tremor. A highly strung temperament, admitted by the patient, had significance. Local symptoms due to the goitre were uncommon; obstructive dyspnœa was present in 5, and dysphagia in 5.

TABLE II.—*Thyrotoxic Hypertension*

Analysis of 100 *patients* (*continued*).

MAIN SYMPTOMS

(1) *Cardiovascular.*		
Dyspnœa	83	cases.
Palpitation:		
Simple	59	,,
Auricular fibrillation	23	,,
Permanent	13	
Paroxysmal only	10	
Angina of effort	5	,,
(2) *Thyrotoxic.*		
Weakness	69	cases.
Loss of weight	56	,,
Nervousness	46	,,
Tremor	19	,,
Sweating	9	,,
Obstructive dyspnœa	5	,,

All the patients in the series had established hypertension of not less than 160 mm. Hg, systolic. In 89 the diastolic pressure was 90 mm. Hg, or more. In those with auricular fibrillation, difficulty sometimes arose in deciding whether to admit a patient to the series. Blood-pressure readings in fibrillation cannot compare for accuracy with those taken during normal rhythm, so we never accepted these as evidence in that small proportion seen only during fibrillation unless convincing figures were obtained.

TABLE III.—*Thyrotoxic Hypertension*

Analysis of 100 *patients* (*continued*).

EVIDENCE OF HYPERTENSION

(1) *B.P.* (*mm. Hg*).			
Systolic	160–200	69	cases.
	200–240	24	,,
	Over 240	7	,,
Diastolic	Below 90	11	,,
	90–110	60	,,
	110–130	23	,,
	Over 130	6	,,
(2) *Radioscopic.*			
Enlargement of left ventricle		64	cases.
Uncoiling of aorta		59	,,
(3) *Electrocardiographic.*			
Left ventricular preponderance		44	cases.

THYROID ENLARGEMENT

Great	2	cases.
Moderate	34	,,
Slight	62	,,
None (previous thyroidectomy)	2	,,
General	86	,,
Adenomatous	17	,,
Chiefly substernal (X ray)	11	,,

The distribution of the cases in relation to the height of the blood pressure is shown in Table III., and in relation to the pulse pressure in Table IV. These figures show that the special effect of thyrotoxicosis on blood pressure is often to be seen with the pulse pressure unusually large. In 19 patients the pulse pressure was actually greater than the diastolic pressure.

The association of tachycardia with the hypertension was a striking feature and more than merely coincidental. In 7 it was ascribed to congestive heart failure, but in 66 of the remaining 93 patients a persistent tachycardia (i.e., pulse-rate over 90 per minute) prevailed although failure was absent. The tachycardia was slight (i.e., less than 100 per minute) in 21, moderate (i.e., from 100 to 120 per minute) in 36, and marked (i.e., over 120 per minute) in 9. There was collateral evidence of thyroid toxæmia in all these cases; and we are sure that tachycardia persisting for long periods in patients with hypertension, yet unaccompanied by heart failure, evidences a thyrotoxic factor.

Extrasystoles were noted in 14 patients and confirmed by electrocardiogram in 10; they were of the ventricular type in 7, auricular in 2, and nodal in 1. Six of these cases had tachycardia also, with a pulse-rate higher than 90 per minute. The incidence is not unusually high, so that extrasystoles in the presence of a high rate have little or no significance as an index of thyrotoxicosis when there is hypertension.

TABLE IV.—*Thyrotoxic Hypertension*

Analysis of 100 *cases* (*concluded*).

EVIDENCE OF THYROTOXICOSIS

(1) *Symptoms.*—High incidence of weakness, loss of weight, and nervousness of the type expected with thyroid toxæmia.

(2) *Physical signs.*		
(a) *General.*		
Nervousness	76	cases.
Fine tremor	73	,,
Sweating or flushing	39	,,
Wasting	36	,,
Exophthalmos	30	,,
(b) *Cardiovascular.*		
Tachycardia (pulse-rate over 90; 7 cases excluded because of heart failure)	66	cases.
High pulse pressure:		
90–110 mm. Hg	36	,,
Over 110 ,,	15	,,
Auricular fibrillation	23	,,
Permanent 13		
Paroxysmal 10		
(3) *Radioscopy* (apart from enlargement of left ventricle in 64 cases).		
General enlargement of heart	29	cases.
Enlargement of pulmonary artery	18	,,

Twenty-three patients in the series had auricular fibrillation; in 13 it was permanent and in 10 paroxysmal. This high incidence in a series of hypertensive patients is opposed to the usual retention of normal rhythm even when heart failure has supervened. Gallavardin [16] and Parkinson and Clark-Kennedy [46] have emphasised this normality of rhythm in ordinary hypertensive heart failure. The latter found fibrillation to supervene before death in 3 only of a group of 23 hypertensive patients with heart failure, and in one of these exophthalmic goitre was associated. White and Jones [47] found the incidence to be only 13 per cent. in an unselected series of 708 cases, and it is possible that they may have included patients who would now be thought to fall into our special group. Here the high incidence is attributable to thyrotoxicosis, and its importance is in relation to the premature induction of heart failure. Failure was present in 7 out of 100 cases, and 5 of these had permanent and

1 paroxysmal fibrillation. The effect of fibrillation was also shown by the left auricle which was seen to be enlarged (radioscopy) only when auricular fibrillation had been present for some months. As fibrillation was related to thyroid toxæmia in these cases, the contention of many that thyrotoxicosis itself does not lead to permanent changes in the heart is decidedly weakened. This enlargement of the left auricle was seen in 11 cases, 10 with permanent and 1 with paroxysmal auricular fibrillation. None had mitral stenosis, and rarely if ever was the auricular enlargement so disproportionate as in this condition. In two of three others who had established fibrillation without enlargement of the left auricle, the fibrillation was recent. In nine others who had paroxysmal auricular fibrillation without enlargement of the left auricle, the attacks had been infrequent in all but two.

There was other evidence on radioscopy both of hypertension and of thyroid toxæmia (cardiac). In 64 there was enlargement of the left ventricle, and in 59 this was accompanied by uncoiling of the aorta. As is now recognised, hypertension produces an uncoiling or separation of the limbs of the aortic arch, as seen in the left oblique position by X rays. The changes due directly to the goitre were shown by enlargement of the heart as a whole in 29, and of the pulmonary artery in 18; in 33 cases one or the other of these was present. In addition, there were the indirect effects of auricular fibrillation already mentioned. These observations show that the character of the cardiac enlargement in these patients is determined both by the hypertension and by the goitre, though the former predominates.

General signs of thyrotoxicosis were present in 86 out of the 100 patients, and their relative frequency and character are given in Table IV. The commonest were emotional unrest and nervousness of the type expected with thyroid toxæmia, fine tremor, sweating or flushing, wasting, and exophthalmos. All these signs were present in 30 cases and at least 2 of them were found in 81; in the others the evidence of thyrotoxicosis was partial. These cases are exactly comparable with the "masked" cases of ordinary hyperthyroidism, and they emphasize the frequency with which such incomplete forms occur. In 14 patients general thyrotoxic signs were absent; but in addition to a goitre, 4 of these had paroxysmal auricular fibrillation, and in 4 the history of chronic goitre ranged from 14 to 40 years. Every patient in the series had enlargement of the thyroid gland except two who had undergone a previous thyroidectomy. In 62 the enlargement was slight, in 34 moderate, and in 2 only was it great. The enlargement was general in 86, 4 of whom had adenomata in addition; the enlargement was purely adenomatous in 17. Eleven had a retrosternal goitre disclosed by X ray examination.

DISCUSSION

The evidence presented in this paper shows that ruling features of thyrotoxicosis are often met in hypertensive patients. Without adducing other evidence, the association is sufficiently common to arouse suspicion that long-standing thyrotoxicosis may be one of the causes of essential hypertension. However that may be, such thyroidal patients are to be separated from the general group of essential hypertension, if not ætiologically, then certainly in the sphere of diagnosis and treatment; for the clinical features, course, and treatment are largely determined by the coexistent thyroid toxæmia.

The recognition of this factor must therefore become important in diagnosis. The condition is ten times more frequent in females than in males; it is rare under 40, and most patients are between 50 and 60 years of age. Two-thirds have had a chronic goitre for many years, and at least half of these have also manifested chronic thyrotoxæmia. There may be a history of exophthalmic goitre, supposedly cured or even operated on. Thyroid enlargement, usually slight, may be minimal or doubtful; indeed we have a number of cases, not included in our series, where it has been impossible to demonstrate any enlargement, though the thyroid element could not be denied. In some that are included enlargement of the thyroid gland has been present many years though disregarded or even denied. Yet one is convinced by the tachycardia, thinness or wasting, the thyroid temperament with its energy and restlessness, a fine tremor, and other general evidence of thyroid dysfunction. Moreover, the character of the cardiac enlargement often shows the influence of the goitre in addition to that of hypertension. It determines auricular enlargement, for instance, by way of auricular fibrillation. Sometimes only two or three typical signs of thyrotoxicosis are present, and such cases fall into the group of "masked hyperthyroidism" but here involving hypertension.

These combined features in patients with hypertension justify their separation into a clinical group with a distinctive prognosis and treatment. Besides the added burden of general symptoms emanating from the toxic thyroid, these patients are prone to auricular fibrillation (23 in 100) which antedates the congestive heart failure which would eventually be expected in hypertension. Indeed, whenever auricular fibrillation occurs in a patient with hypertension, goitre is now to be suspected as a likely cause. We would go further; there are patients with auricular fibrillation resulting from a chronic goitre who have no hypertension when first seen, yet in whom its previous existence can be deduced from the radiological appearances of the heart and aorta.

Recognition of the thyroid factor influences treatment in important ways. Rational therapeutics must be discriminating. Iodine or iodide is often administered for hypertension itself, but the routine use of these remedies will have to be considered in a new light when thyrotoxicosis affects a hypertensive subject. If iodide is used it will be with the knowledge that it may be influencing an abnormal thyroid gland; it is even possible that where it was thought to be of value in high blood pressure, a thyroid was in fault. Thyroid extract and remedies containing it will be contra-indicated for these particular patients. Most of the proprietary tablets or fluid preparations of endocrine glands contain thyroid extract, to which indeed they owe their potency, yet the fact may be forgotten that such may aggravate the toxæmia. A similar warning has been given by Riddoch [55] against the use of thyroid at the climacteric with hyperthyroidism however minor.

The question of operation arises for the relief of symptoms and the prevention of auricular fibrillation and consequent cardiac failure. Crile [12] in 1923 wrote that "this correlation of high blood pressure with hyperactivity of the thyroid is sufficiently well established to lead to operation in hypertension and myocarditis where the only evidence of thyroid involvement aside from these is the presence of a goitre." He mentioned that operation is sometimes followed by a marked fall in blood pressure. Tinker [62]

recorded the results of operation in 11 cases in all of whom the systolic blood pressure was greater than 200. In all there was immediate and striking improvement, and in three the blood pressure fell to 150 or less. The late results, though less convincing, showed that about a third of his cases were improved over a period of three years' observation. Else [18] also thought subtotal thyroidectomy advisable because of the additional risks from the thyroid factor in hypertension. He found that the blood pressure though usually reduced rarely returns to normal because of damage already done. Chesky,[9] however, found no benefit and so did not advise operation. Rosenblum and Levine [69] recently reported the late results of subtotal thyroidectomy in a series of cases of hyperthyroidism with significant heart disease. In 23 hypertensive cases with an average systolic blood pressure of 170 mm. Hg, and diastolic of 89 mm. Hg, before operation, there was no change in the pressure three years after operation though there was often great improvement in respect of heart failure or anginal pain. In our series subtotal thyroidectomy has been done in 16 of the 100 patients, often with amelioration of symptoms and fall in pulse-rate, though its effect on blood pressure and its permanent value cannot yet be judged.

CONCLUSIONS

(1) The term thyrotoxic hypertension is applicable to a group of patients with hypertension in whom there are ruling features of thyrotoxicosis, especially tachycardia, with a chronic goitre which has often been overlooked.

(2) These patients are usually women between the ages of 45 and 65 years; they are thin, excitable, and easily tired. The tachycardia is 90–110; the systolic blood pressure is between 170–240, often with a low diastolic figure (high pulse pressure). Paroxysms of auricular fibrillation may be followed by permanent fibrillation. The dual influence of goitre and hypertension appears in the radiocardiogram.

(3) Enlargement of the thyroid gland may be minimal, even doubtful; occasionally it is substernal. Masked hyperthyroidism has already been related to myocardial disease; it is now seen to figure in relation to hypertension. In any patient with hypertension showing tachycardia, and still more if there is auricular fibrillation with or without cardiac failure, the thyroid gland should be examined most critically and supporting evidence of thyrotoxicosis should be sought.

(4) Thyrotoxic hypertension calls for special consideration in treatment. Thyroid extract is contra-indicated. If iodine or iodide is used for hypertension its possible effect on an abnormal thyroid will be taken into account. Subtotal thyroidectomy will often relieve symptoms, and prevent or dispel auricular fibrillation which so often determines a premature heart failure in hypertension.

(5) The frequency of the combination should revive the suspicion that chronic thyrotoxicosis is one of the causes of hypertension (a thyrogenic hypertension).

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SUSSEX MENTAL DEFECTIVES.—Three years ago the Brighton corporation acquired for £10,000 Laughton Lodge, near Ringmer, a two-storied mansion with 138 acres of land, including a well-timbered park. For some time a number of male adult patients have been accommodated there, and are being employed in the workshops, kitchen, or garden, which provides all the fruit and vegetables for the establishment. Arrangements are now being made to accommodate 500 patients, and it is hoped that ultimately the number will be increased to 800. Patients are to be nominated by the Eastbourne and Hastings corporations, and the East and West Sussex county councils. It is planned to have one section of the colony for male patients and one for female patients and children, while the administrative buildings and workshops will form a third group. A site for the erection of a nurses' home is being considered.

A GASTRIC LESION PRODUCED BY AN EXTRACT OF THE PITUITARY GLAND

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The following preliminary report describes some new properties associated with an extract of the pituitary gland. The preparation was made by the acetone-picric acid process as described by Dodds and Dickens.[1] The same quantities of reagents in relation to weight of wet tissue were employed as in the preparation of insulin from pancreas. From each kilogramme of gland an average of between 2–4 grammes of hydrochloride was obtained in the form of a readily water-soluble, white, non-deliquescent powder.

If 150 mg. of this substance be dissolved in 1 c.cm. of water and the resulting fluid be injected subcutaneously into a rabbit (2–3 kg.) the following symptoms are observed. The animal at first is prostrated. Respiration is shallow and rapid, and the heart-rate is accelerated. In most cases after about three hours these symptoms disappear and the animal returns to a normal condition. Occasionally death supervenes. For the next seven days it partakes of practically no food and loses weight rapidly. The fæces are dark coloured and have the appearance of containing altered blood. After 7–10 days the animal recovers completely. Its appetite returns and it rapidly gains weight.

If the animal be killed 15 hours after injection, on post-mortem examination it will be noticed that whilst the other organs appear normal it is obvious that the stomach, even from the exterior, shows a severe gastritis. If the stomach be removed and slit down the greater curvature, the food washed out, and the mucous membrane be examined, a remarkable appearance presents itself. The œsophagus, duodenum, and the distal third of the stomach appear normal. The fundus, however, presents a dark mottled red appearance with a fibrinous exudate on the surface. The stomach wall in this region is frequently œdematous, and the whole appearance is similar to that seen in cases of corrosive poisoning by mouth. It is significant that the lesion is only present in the acid-secreting area of the stomach. This observation has been repeated some 40 times with the same finding in each case. In some animals the lesion is so severe as to suggest that the whole of the mucosa of the acid-bearing area has become necrotic and has been replaced by a hæmorrhagic sloughing mass. Bearing in mind that this occurs within 12–15 hours of the injection the most significant facts are the sharp demarcation of the affected area together with the complete absence of lesions in other parts of the alimentary tract. In most animals the liver and kidneys appeared to show signs of a toxic effect. These were not invariably present, whereas the gastric lesion was present in all cases.

Similar effects were found when the material was injected into mice, rats, and guinea-pigs. In these animals the acid-bearing area of the stomach was again picked out.

A number of control observations have been made by employing the acetone-picric acid process to obtain extracts of ox liver, spleen, kidney, brain and muscle, and human placenta. The resulting hydrochlorides have been injected in doses of 150–500 mg. into rabbits under the same conditions as previously described. In all cases a negative result has been obtained. It is interesting to note that the toxic changes in kidney and liver have been frequently observed in these control experiments, thus indicating that the gastric effect is not of necessity associated with the effect on kidney and liver. This is the more significant when it be remembered that a toxic effect on the kidney and liver is not always associated with a gastric lesion. It has been shown that the active material is concentrated in the posterior rather than the anterior lobe.

The problem at once arises whether this phenomenon is due to some new gastrotoxic substance or to a hitherto undiscovered property of the known hormones of the posterior lobe. Preparations of the oxytocic and pressor hormones were obtained according to the method of Kamm et al.,[2] and it was found that when 650 units of the oxytocic principle were injected subcutaneously into rabbits the result was negative. In another experiment in which 700 units were employed there was a very slight reddening of the gastric mucosa. It would appear therefore that the gastrotoxic factor is not associated with the oxytocic principle. Similar experiments were performed in which the pressor factor was administered to animals in doses varying from 150–680 units. In these animals there was a definite change in the stomach mucosa of varying intensity. A mixture of the oxytocic and pressor factors, 600 units of each, when injected into an animal resulted in very slight changes in the stomach. From this it would appear that the gastrotoxic factor has been removed by the process of Kamm et al. from the oxytocic hormone but was present in the pressor factor.

A series of animals were injected with the standard B.P. extract of the posterior lobe. Doses varying from 200–800 units were administered. In all cases there were very severe gastric lesions indicating that the gastrotoxic substance was present in the material in a considerable concentration. Oral administration of 600 units produced an intense lesion of the acid-secreting mucosa in ten hours. It must be remembered that the doses employed by us were so great that the amount of gastrotoxic factor contained in ordinary clinical doses would appear to be negligible.

CONCLUSIONS AND SUMMARY

The posterior lobe of the pituitary is found to contain a substance capable of inducing a severe lesion of the acid-bearing area of the stomach. This is efficacious when injected subcutaneously, and it is also contained in the standard B.P. extract of the posterior lobe. This extract is active by mouth. The oxytocic principle even in massive doses will not produce a lesion, whilst the pressor factor in similar doses has a definite action. Although it would appear that the gastrotoxic factor may be a substance differing from the other two hormones of the posterior lobe a definite statement cannot be

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† Working with a grant from the Medical Research Council.

made until it has been further purified. At present it is impossible to state whether the substance in smaller quantities plays a physiological rôle, nor is it possible to state its mode of action. It seems that either the substance has a direct toxic action on the cells of the acid-secreting area of the stomach or perhaps it stimulates secretion of hydrochloric acid to a damaging extent. Intensive investigations are being performed on the chemical nature and mode of action of this interesting compound.

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THE ANÆMIAS AND THEIR TREATMENT *

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So much has been spoken and written on the anæmias in recent years that I have decided not to attempt to review the subject, but to try to draw a few simple conclusions or general ideas from the very interesting work which has been done. I propose to open this discussion by referring to three papers published independently in 1926, which contained the germ of most of the subsequent achievements.

THREE GENERAL PRINCIPLES

In the first of these papers Weiner and Kaznelson, of Prague, described the changes in the bone-marrow in the disease we now know as idiopathic hypochromic anæmia. They showed that the bone-marrow was hyperplastic and contained an excess of normoblasts, which decreased after the administration of iron, which is a specific remedy for the disease. They were much surprised at these findings, as clinically there was no evidence of excessive blood destruction and they had expected to find a hypoplastic marrow. They suggested that the only explanation was a disturbance in the maturation of erythroblasts into erythrocytes, with a consequent accumulation of normoblasts in the bone-marrow in the florid stages of the disease. The conception of anæmia due to *disturbance in the maturation of the red blood-cells* is now a familiar one, but at the time it was extremely novel, for it had previously been almost an axiom that a red bone-marrow meant increased blood destruction, and that diminished blood formation must be attended by a hypoplastic marrow.

In the same year Minot and Murphy, of Boston, reported the "Treatment of Pernicious Anæmia by a Special Diet," establishing the curative effect of liver and describing the reticulocyte crisis which occurs on the inception of treatment. Peabody, also of Boston, had published the first of his studies of hyperplasia of the bone-marrow in man in 1926 and the second appeared in 1927, shortly before his untimely death. He showed that the hyperplasia of the marrow in pernicious anæmia was most marked during relapse, and that the structure of the marrow tended to return to normal during the remission. He explained the anæmia of the relapse by the functional ineffectiveness of the bone-marrow, which resulted from the failure of the megaloblasts to differentiate towards mature erythrocytes, and suggested that the striking clinical results obtained by the prescription of liver were due to some factor in the liver, which affected cell metabolism and promoted the development and differentiation of mature red blood-cells. His work may be summarised in a second conception, that a disturbance in the maturation of the red blood-cells in the bone-marrow and consequent anæmia may be produced by a *defective supply of hæmatinic factors to the bone-marrow*.

The work of these pioneers forged a strong link between hæmatology and the science of nutrition, and the subsequent experiments of Castle showed the intimate connexion between hæmatology and gastro-enterology. Castle, like many other physicians, was impressed by the constancy of achylia gastrica in pernicious anæmia and by the evidence that the natural or artificial abolition of the normal gastric secretion could precipitate the onset of the disease. In a series of brilliant experiments he showed that a healthy diet contains an "extrinsic factor," which is acted on by an "intrinsic factor" present in normal gastric juice, to produce the substance effective in pernicious anæmia, which is then stored in the liver. Substitution therapy in pernicious anæmia may therefore be practised either with desiccated stomach or with liver. Castle described pernicious anæmia as a "conditioned deficiency," inasmuch as the defective supply of hæmatinic factors to the bone-marrow was the result of alimentary disorder and not of any absolute fault in the diet. The conception of *conditioned deficiencies* is the third general principle which I wish to bring to your notice.

The exact nature of the extrinsic factor has not yet been discovered. It is present in most first-class proteins and especially in yeast, but it is not vitamin B, as Castle had at first concluded (Lucy Wills). The active principle present in stomach is distinct from pepsin and from the active principle of liver (Klein and Wilkinson) and in the pig Castle's intrinsic factor appears to be produced by the pyloric glands, in contrast with pepsin, rennin, and acid, which are produced by the body of the stomach (Meulengracht). It is probable that intrinsic factor is also produced by the cardiac end of the stomach, and indeed otherwise one would expect post-operative Addisonian anæmia to be more frequent than it is to-day. Examples of anæmia due to defects in the diet are the nutritional anæmia of infancy and tropical nutritional anæmia, while the most important anæmias due to conditioned deficiencies in addition to pernicious anæmia are sprue and idiopathic steatorrhœa. In other forms of anæmia the ætiology may be more complicated. In idiopathic hypochromic anæmia, achlorhydria, defective diet, and reduction of the iron stores by menstruation and pregnancy may all play a part, whilst in ankylostomiasis the factors seem to be defective diet, achlorhydria, intestinal malfunction, and hæmorrhage.

INHIBITED MATURATION OF ERYTHROCYTES

Since 1926 the nutritional aspects of anæmia have preoccupied the attention of clinicians and research workers, but the first fruits of this field have quickly been gathered, and attention is now turning to the way in which the maturation of the red blood-cells may be inhibited by *infection* and other agencies. The effects of infection on the erythron are complex. In addition to the destruction of red cells by bacterial toxins and by the increased wear and tear of the febrile state, and the degenerative changes which affect all the tissues and have no

* Introducing a discussion at the Medical Society of London on Oct. 22nd, 1934.

reason to spare the bone-marrow, infection has a definite inhibitory effect upon the utilisation of iron and of the pernicious anæmia factor, which is clinically very similar to the inhibition of the action of insulin by infection in diabetes mellitus.

The inhibition of the maturation of the red cells by infection is most clearly seen in syphilitics artificially inoculated with *malaria*, though it is also well shown in the natural disease (Fairley and Bromfield; Power). After a transient erythrocytosis there is a progressive anæmia of moderately high colour-index and a slight increase of bilirubin in the serum; in the experimental infections there is no increase in reticulocytes, though in the natural disease a moderate reticulocytosis is usually present. The anæmia appears to be out of proportion to the amount of blood destroyed by the parasites and to be aggravated by a reduction of blood formation. The marrow, however, is not hypoplastic, in fact it is redder than normal. On the exhibition of quinine and the death of the parasites there is a prompt reticulocyte crisis and the anæmia is steadily repaired. There is thus no shortage of hæmatinic principles but the organism is unable to utilise them while the infection is present, and the prescription of remedies such as iron and liver is without effect on the anæmia of active malaria. Similar phenomena have been noted by Fairley in the anæmia due to amœbic abscess of the liver.

A peculiar and characteristic form of anæmia, which occasionally follows the *metastasis of malignant growths* in the skeleton and less commonly appears in other forms of bony disease, has been closely studied by Vaughan and Turnbull, who have renamed it leuco-erythroblastic anæmia. The cardinal feature of this form of anæmia is not its severity—for it may be relatively mild—but the appearance of immature leucocytes, nucleated red blood-cells and an abnormally high percentage of reticulocytes in the circulating blood. The anæmia cannot be explained by hæmorrhage or blood destruction, and the reticulocytosis appears to be due to some fault in the process of blood formation rather than an accelerated delivery of new cells into the circulation. In spite of the presence of the secondary deposits, the total amount of erythropoietic marrow is probably not reduced, and may indeed appear to exceed the normal. Secondaries in areas normally occupied by fatty marrow either are embedded in deep red marrow or have a zone of such marrow around them, and zones of myeloid transformation may surround secondaries in other organs. All this is evidence of a fruitless hyperplasia or dysplasia of the erythron, comparable with the changes in pernicious anæmia. Hæmatinic remedies such as liver and iron are without influence on leuco-erythroblastic anæmia. Vaughan and Turnbull suggest that the cancer cells deprive the hæmopoietic cells of necessary food factors, and whether the mode of action be deprivation, irritation, or inhibition of these cells, the anæmia is obviously due to a disturbance in the maturation of the red cells.

Another striking maturational anæmia is the anæmia produced by the ingestion of *radium* salts, which was described by Martland in girls painting the dials of luminous watches. The radium is sequestered in the bones and produces much the same changes in the marrow as the neoplastic deposits in leuco-erythroblastic anæmia. But enough examples have been given to show that in addition to the anæmias due to increased destruction of blood, as from hæmorrhage and hæmolysis, and the anæmias due to aplastic changes in the marrow, as from chemical and biological poisons, there is this third and most important group due to disturbances in the maturation of the red cells. Although the marrow may be anatomically extensive, it is functionally ineffective, and few cells are delivered into the circulation. The cause is most often an insufficient supply of the raw materials for blood formation, either from faulty diet or from alimentary disease, but in other instances, although the raw materials are supplied in abundance, their utilisation is inhibited by infection, toxic substances, or malignant disease.

OR OF LEUCOCYTES

Side by side with the erythron is the complex tissue constituted by the leucocytes and the myeloid cells from which they arise. The life of the polymorphonuclear cells is short and their numbers are constantly being depleted by emigration from the circulation. Losses are made up by the proliferation of cells in the bone-marrow which develop and multiply through the stages of myeloblast and myelocyte to produce fresh supplies of active polymorphonuclear cells. The production of white cells in the marrow and their release into the circulation must also be influenced by chemical principles, and the discovery of this mechanism has become a matter of immediate importance, owing to the apparent increase in frequency of agranulocytosis or essential neutropenia. The cardinal feature in this disease is a marked reduction in the total number of white cells in the blood and a special reduction in the number of polymorphonuclear cells, which may practically disappear. In the absence of the cellular defences of the body the mucous surfaces of the body are liable to be invaded by the bacteria which are always present there, and a variety of serious lesions may develop. In a number of cases it has been clearly shown that the leucopenia preceded any evidence of infection, and chronic and relapsing types of the disease have been recognised. The leucopenia is not the result of infection but the cause.

It has long been known that a leucocytosis can be produced by the injection of nuclein. The leucocytes which die in the circulation must yield nuclear derivatives, and nucleotides are normally present in the blood, so that it is natural to conclude that nuclear derivatives may be one of the physiological agents concerned in leucopoiesis and leucocytosis. Confirmation has come with the discovery of the value of nucleotides in cases of agranulocytosis. It is interesting to see how closely the response to the injection of nucleotides in agranulocytosis resembles the reticulocyte crisis in pernicious anæmia. "The sequence of events as the earliest myeloid cells appear, only to be supplanted each in turn by succeeding generations of more mature cells, unfolds the life-cycle of the neutrophilic myelocyte and leucocyte quite as completely as it is revealed in histologic studies of regenerating bone-marrow" (Doan). At the beginning of nucleotide treatment there is often a myelocyte crisis, reaching between 10 and 20 per cent., and this is accompanied and followed by a steady increase in the number of polymorphonuclear cells, which are at first of an immature type.

The leucopenias are more difficult to study than the anæmias, for cases are relatively uncommon and the patients are usually too acutely ill for clinical experiment. It is probable that essential leucopenia will prove to have as complex an ætiology as the anæmias due to disturbances in the maturation of the red cells, and it is certain that not all cases respond to nucleotide therapy. Fairley and Scott

recently described a chronic relapsing case in which death occurred in spite of thorough treatment with nucleotide. Bowen-Davies has reported the agranulocytic syndrome in a young man with idiopathic steatorrhœa; there was no response to nucleotide, but recovery with a normal white count on injection of liver. Nevertheless the same general principles apply as in diseases of the erythron. Leucopenia may be brought about by a disturbance in the maturation of the white cells. The marrow may be functionally ineffective, even though anatomically there is a normal amount of leucopoietic tissue. The normal maturation of white cells and their delivery into the circulation may be induced by supplying the appropriate chemical principles.

Liver and nucleotide, which are so essential to the normal development of the blood-cells, appear to be harmless in excess and cannot be used to produce erythræmia and leukæmia. It is apparent, however, that we are steadily gaining knowledge of the factors which control the growth of tissues, and the advances in hæmatology can be paralleled by the contemporaneous discovery of simple chemical substances among the vitamins and the endocrines, which powerfully influence the growth and development of tissues. There are few places in which the relation between nutrient factors and orderly tissue development can be seen so clearly as in the hæmopoietic system, and the general principles which have been established there may prove to have a wider application.

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AN INVESTIGATION OF THE RESULTS OF SPLITTING THE KIDNEY

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THE operation of splitting the kidney has been much criticised, and Graham Simpson [1] has lately stated that he is opposed to it on the following grounds: (1) the risk of severe hæmorrhage a few days later; (2) the doubt whether the damaged organs are of much use afterwards; and (3) the risk of missing an early growth.

This paper is an attempt to assess the immediate value and final results of operations which involve splitting the kidney along its convex border in the bloodless plane of Hyrtl; it includes only those cases in which the kidney has been incised along two-thirds or more of its convex border. An operation of this type is not often performed, for usually a smaller incision will suffice, and it was carried out in only 17 cases at St. Thomas's Hospital during the ten-year period 1924–1933, the indications being: (1) inability to deliver and expose the renal pelvis; (2) difficulty in locating a small calculus; (3) inability to remove a large branched calculus through a small incision; and (4) exploration of the kidney for hæmaturia. The operation attained its immediate object in all but one case, in which the calculus was not found until nephrectomy three weeks later. In two other cases no calculus was found, but radiograms taken later showed no shadow in the renal area.

It appears therefore that this is a satisfactory method of exploring the kidney for calculus, considering that it has only been employed as an alternative to abandoning the search or removing the kidney. As a method of excluding the presence of a growth it is open to the criticism that it cannot explore completely the renal substance, but this is applicable to all methods of exploring the kidney except nephrectomy. The fact that unexplained unilateral hæmaturia is occasionally due to chronic interstitial nephritis justifies a conservative attitude, and, apart from nephrectomy, splitting the kidney is the most effective means of excluding a growth. The value of the operation will therefore depend on the incidence and severity of the complications, and the subsequent value of kidneys which have been split. In this investigation the function of the kidney has been judged by intravenous pyelography which is assumed to give a fair index of its efficiency compared with the kidney of the opposite side.

In the 17 cases the operative mortality was nil and the renal complications as follows:—

A. There was *hæmaturia* for a short time in all cases. Secondary and persistent hæmaturia occurred in three cases: in one of these (No. 9) the calculus had not been found, and nephrectomy was performed on the twenty-first day for severe hæmaturia and pyuria; in the other two (Nos. 14 and 16) hæmaturia was severe and prolonged, but the patient ultimately made a good recovery and intravenous pyelography shows that the renal function is as good as on the other side.

Hæmaturia is thus a definite complication of this operation but as a rule it is transient, and I suggest that even severe secondary hæmaturia does not per se demand nephrectomy and does not indicate gross damage to the kidney. During the same ten-year period at St. Thomas's Hospital nephrectomy was performed in several cases for secondary hæmaturia following a small incision into the renal substance. A possible explanation is that a small incision is made to remove a calculus which is palpable through thin diseased cortex, whereas in most cases in this series a large incision was made into a healthy kidney to remove a small stone. Again, sutures are more effectively applied to a large than to a small incision.

B. *Suppuration and secondary hæmorrhage* from the wound occurred in one case (No. 4).

C. *Persistent urinary fistula* necessitating nephrectomy also occurred in one case (No. 17).

A study of the Table shows that the efficiency of the split kidneys as judged by concentration of Perabrodil has not been seriously impaired. In three cases (1, 3, 5) ability to concentrate perabrodil is definitely inferior to that of the opposite side; but in two cases (10, 14) the split kidney appears to be the more efficient of the two; and in one case (6) it is the only kidney functioning. In the other six the concentration is about the same as that of the other side. The kidney subsequently removed for urinary fistula showed only a linear scar over the site of the incision.

[1] Graham Simpson: Brit. Jour. Surg., 1934, xxi., 388.

TABLE SHOWING THE RESULTS OF SPLITTING THE KIDNEY

Case.	Disease.	Year.	Indications for splitting the kidney.	Result.	Post-operative course.	Pyelogram, 1934.
1	Calc. L. kidney.	1924	Exploration through renal pelvis had failed.	Small calc. removed.	Subcutaneous abscess on fourteenth day.	Secretion of L. kidney less than R. Upper calices distorted.
2	Calc. R. kidney.	1924	Not stated in records.	1 big and 4 small calc. removed.	Uneventful.	Both kidneys secrete equally.
3	Do.	1924	Calc. not palpable in pelvis.	Small calc. removed.	Do.	L. kidney secretes better than R. kidney.
4	Do.	1925	Pelvis very inaccessible; stone not palpable.	Do.	Suppuration in wound. Sec. hæmorrhage in wound 16th day. Healed 49th day.	This patient cannot be traced.
5	Calc. L. kidney.	1925	Previous unsuccessful exploration of, and needling of kidney at another hospital in 1923. Then told that pain was due to neurasthenia; pain persisted. Stone not palpable; pelvis surrounded by scar tissue.	Do.	Uneventful.	L. kidney secretes poorly. Calices distorted. R. kidney secretes well.
6	Calc. R. kidney.	1926	R. pyelolithotomy 1924. Pelvis now surrounded by adhesions; stone not palpable.	Do.	Do.	R. kidney only secretes. Calices distorted; slight hydronephrosis.
7	Do.	1926	Not stated.	Do.	Do.	Both kidneys secrete normally.
8	Do.	1927	Kidney adherent from previous perinephric abscess.	3 calc. removed.	Suppuration from wound. Healed 30th day.	This patient cannot be traced.
9	Do.	1927	Pelvis explored without result.	No calc. found.	Pyuria and hæmaturia necessitated nephrectomy on 21st day. Stone found in specimen.	Patient ultimately made a good recovery.
10	Do.	1928	Do.	Small calc. removed.	Uneventful.	R. kidney secretes better than L. Calices of R. kidney distorted.
11	Do.	1929	R. uretero-lithotomy in 1928. Pelvis now surrounded by scar tissue; stone not palpable.	Calc. removed.	Do.	Kidneys secrete equally. R. pelvis distorted.
12	Hæmaturia.	1929	To explore kidney for cause.	Nil found. Biopsy: ch. int. neph.	Uneventful. Nephrectomy for recurrence of hæmaturia 6/12 later.	Nephrectomy confirmed diagnosis.
13	Pain. ? calc. R. kidney.	1931	Attacks of renal pain, hæmaturia, and pyuria during one year. Doubtful X ray shadow R. renal area. Pelvis opened; no stone found.	Nil abnormal found.	Uneventful.	Both kidneys secrete well. Slight hydronephrosis R. No evidence of calculus.
14	Calc. R. kidney.	1932	Large branched calculus, too large to remove through the pelvis.	Calc. removed.	Severe hæmaturia on 14th day; urine clear on 28th day.	R. kidney secretes better than L. Calices distorted.
15	Calc. L. kidney.	1932	Ureterolithotomy L., pyelolithotomy R., in 1929. X rays show renal calculus. Pelvis surrounded by scar tissue.	No stone found.	Uneventful recovery. Post-operative radiogram. No evidence of calc. Stone apparently displaced at operation.	Both kidneys secrete poorly. No evidence of calculus.
16	Calc. R. kidney.	1933	Pain in R. loin one year; previous investigation in 1932 failed to reveal the cause. 1933: examination showed small calculus in kidney. Pelvis explored, kidney needled without result.	Small calc. removed.	Very severe hæmaturia 14th to 42nd day. Hb. 30 per cent. Since then no urinary symptoms.	Both kidneys secrete equally.
17	Calc. L. kidney.	1933	Large branched calculus, too large to remove by pelvis.	Removed.	Persistent sinus. Nephrectomy 6th week.	Kidney tissue normal. Sinus into lower pole. Incision healed by a thin linear scar.

Calc. = Calculus. Ch. int. neph. = Chronic interstitial nephritis.

Conclusions.—Splitting the kidney is a useful alternative to nephrectomy (*a*) for the removal of a small calculus which cannot be located by a less destructive approach; (*b*) for the removal of a calculus from a kidney whose pelvis is surrounded by scar tissue or adhesions; (*c*) for the removal of a large branched calculus; and (*d*) for exploration in a case of unexplained renal hæmaturia.

The operation does not produce excessive damage to renal function, and the importance and severity of the principal complication, hæmaturia, has been much exaggerated.

I wish to thank the surgeons of St. Thomas's Hospital for permission to follow up their cases, and Mr. B. W. Williams for his advice and assistance.

NORTH RIDING TUBERCULOSIS SANATORIUM.—The old workhouse at Bedale has been converted at a cost of nearly £7000 into a sanatorium for the treatment of adult cases of tuberculosis in women; has been renamed Mowbray Grange and formally opened by the Hon. Geoffrey Howard, Lord-Lieutenant of the North Riding. The building will accommodate 30 patients and an administrative staff of 10.

AURICULAR FLUTTER

WITH TEMPORARY REVERSION TO NORMAL RHYTHM AFTER SIX YEARS

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Auricular flutter with 1 : 1 block is uncommon and Parkinson and Bedford [1] were only able to find 18 such records; they added two more of their own at rates of 254 and 275 and two others at slower rates during quinidine treatment. Reversion to normal rhythm after several years of established flutter is even more uncommon. The following case showed both these features.

Mrs. A. had three attacks of rheumatic fever when 6, 8, and 12 years old, and was treated at the Hospital for Sick Children, Great Ormond-street. She was always short of breath, but managed to lead a fairly normal life till she was 40, when she became much more short of breath. She was first seen at the National Hospital for Diseases of the Heart two years later in 1927 with severe congestive failure, considerable enlargement of the heart, and aortic and mitral disease.

She was admitted to hospital and her electrocardiogram (Fig. 1A) showed auricular flutter with 2 : 1 block. With rest and digitalis she improved greatly until most of the signs of congestive failure had disappeared. After that she attended out-patients regularly taking tinct. digitalis, ℿ 10 t.i.d. A year later she was readmitted and quinidine was given in an attempt to restore normal rhythm, but without success.

She was first seen by us in July, 1930, when flutter had been present, certainly for three, and probably for five years. During her examination she had a paroxysm in which her heart was regular at 230, and though she was distressed she was quite able to move about the room: an electrocardiogram (Fig. 1 B) showed this was due to flutter with 1 : 1 block. At times her heart-rate was regular and only half this rate (Fig. 1 B, lead 3; flutter with 2 : 1 block), and at times it was very irregular with a varying degree of block.

These attacks were observed on numerous occasions and could generally be induced by sudden exercise when they usually lasted for a few minutes, though at times she thought they lasted for two or three hours without intermission. They began and ended abruptly and closely simulated paroxysmal tachycardia—indeed on a cursory examination of her electrocardiograms it was possible to mistake her flutter with 2 : 1 block for normal rhythm, and the 1 : 1 block for paroxysmal tachycardia. She was much distressed and very dyspnœic during the attacks and had some discomfort in the throat and across the chest, passing down both arms. If they were only of short duration she could move about the room but became more disabled if they lasted longer. Some cyanosis was always present and increased at such times. Considering the congestive failure and the size of her heart it was surprising that her incapacity was not much greater. Electrocardiograms were taken during five of these attacks at different times (1928–31) and the rates were 228, 230 (Fig. 2 A), 216 (Fig. 2 B), 230 (Fig. 1 B), and 212 (Fig. 2 C).

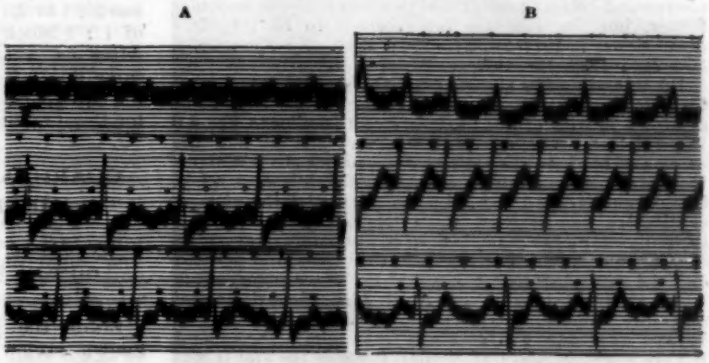

FIG. 1.—(A) Sept. 23rd, 1927: regular 2 : 1 flutter (rate 112). (B) August 15th, 1930: leads I. and II., regular 1 : 1 flutter (rate 230); lead III., regular 2 : 1 flutter.

Because they were getting more frequent and troublesome when we first saw her in 1930 she was admitted to the hospital for the third time.

She had a florid complexion with obvious cyanosis suggesting mitral stenosis. In the aortic area there were systolic and diastolic murmurs and a systolic thrill, and in the mitral area also systolic and diastolic murmurs. The shape of the left auricle on radioscopy confirmed the presence of mitral stenosis, and the heart was greatly enlarged, the maximum transverse diameter being 14·5 cm. with a chest width of 21 cm. The blood pressure was increased, 170/125. There was some congestive failure, but less than on her first admission as she had taken digitalis regularly. During these three years all her electrocardiograms showed auricular flutter, the auricular rate varying between 214 and 230.

Owing to the congestive failure and the size of the heart it was thought unsafe to try to restore normal rhythm with quinidine, but an attempt was made to convert flutter to fibrillation (and so perhaps to normal rhythm) with large doses of digitalis. During the first two weeks on 60 minims of tincture of digitalis daily her heart was never slower than 2 : 1 block, and there were some attacks of 1 : 1 block. During the third week she had

[1] Parkinson, J., and Bedford, D. E.: Quart. Jour. Med., 1927, xxi., 21.

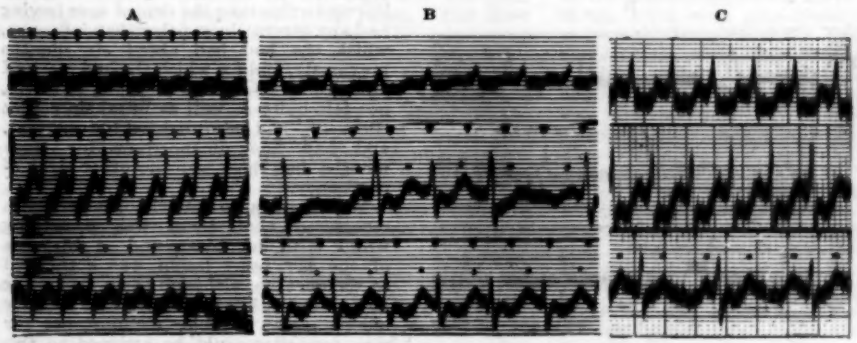

FIG. 2.—(A) Feb. 26th, 1930: 1 : 1 flutter (rate 230). (B) July 18th, 1930: 1 : 1 flutter (rate 216) with occasional 2 : 1 block in lead II. (C) March 27th, 1931: 1 : 1 flutter (rate 212) once with 2 : 1 block in lead III.

℥ 80 daily, and during the fourth week again ℥ 60 daily, and her heart became slower, generally with 4 : 1 block (Fig. 3 A), but signs of intolerance to digitalis appeared before fibrillation was induced.

Her subsequent progress as an out-patient was fairly satisfactory: at first she took digital. fol. gr. 1 t.i.d., but after a few months this was increased to gr. 1 q.i.d., which amount she took almost regularly for nearly two years. With the larger dose the failure was less and her heart was generally irregular with varying 2 : 1 and 3 : 1 (Fig. 3 B) or 3 : 1 and 4 : 1 block, though some 1 : 1 paroxysms still occurred spontaneously and could generally be induced by sudden exercise. All electrocardiograms during these two years showed auricular flutter, but the auricular rate seemed to be getting a little slower: 1927–29, 216–230; 1930, 208–230; 1931, 206–212; 1932, 194–197.

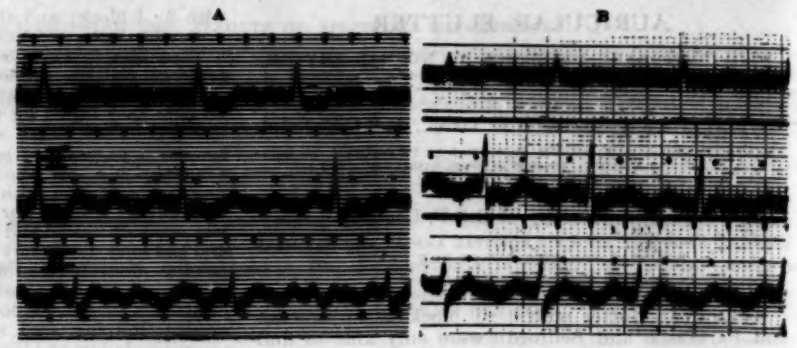

FIG. 3.—(A) Sept. 26th, 1930: generally 4 : 1 flutter (rate 55). (B) April 10th, 1931: 2 : 1 and 3 : 1 flutter (auricular rate 210).

Up to and during March, 1933, the rhythm was always auricular flutter. On April 7th it was normal rhythm at a rate of 76 with coupled extrasystoles (similar to Fig. 4 B taken later). Congestive failure was present and the œdema of her legs was more than usual but she felt about the same. She had been taking digital. fol. gr. 1 q.i.d., so this was reduced to t.i.d. On April 21st the electrocardiogram was not easy to decipher, but it was almost certainly normal rhythm with very frequent extrasystoles of different types; her digitalis was therefore omitted and she was admitted to hospital for closer observation.

An electrocardiogram on April 28th showed normal rhythm without any extrasystoles (Fig. 4 A). The rate was 54 and this rate was generally maintained throughout her six weeks in hospital, though towards the end it was sometimes as fast as 60 or occasionally 72. Regular coupled extrasystoles were observed from time to time (Fig. 4 B on May 11th, 1933, though she had taken no digitalis for three weeks). In June as her œdema had not disappeared with rest she was given tincture of digitalis, ℥ 10 t.i.d., and left hospital much better than she had been for years.

This continued for the first month as an out-patient and she felt much better, but on July 14th auricular flutter had returned. Since then treatment with digital. fol. gr. 1 q.i.d.—the amount she was taking when normal rhythm returned—has kept her in the moderately satisfactory condition of 1930–32 but has not again restored normal rhythm (October, 1934).

This patient is therefore of interest as showing the following unusual features. She has moderate health (but with congestive failure which can be held in check with digitalis), certainly after seven, and probably after nine years of auricular flutter. Generally she has 2 : 1 or 3 : 1 heart-block, but has frequent attacks of 1 : 1 block with a ventricular rate of 212–230. After six years of flutter, while she was taking the same dose of digitalis which she had taken regularly for two years, normal rhythm returned and continued for three months.

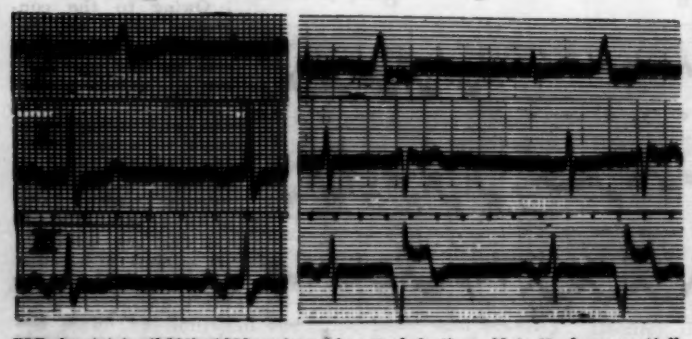

FIG. 4.—(A) April 28th, 1933: return of normal rhythm. Note the large partially inverted P-wave in lead III. There is an extrasystole in lead I. (B) May 11th, 1933: normal rhythm with coupled extrasystoles.

COARCTATION OF THE AORTA WITH INFECTIVE ENDOCARDITIS

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Since the publication by Abbott[1] of her well-known review of 200 cases of coarctation of the aorta interest in this condition has been revived. The embryological and pathological aspects have been studied by Evans.[2] Radiological studies have been published by Rosler,[3] who was the first to observe the characteristic notching of the ribs, Railsback and Dock,[4] Fray,[5] and Ernstene and Robins.[6] Clinical cases have been recorded in some detail by King,[7] Blackford,[8] Thomson and Lamb,[9] East,[10] Ulrich,[11] Evans,[2] Lewis,[12] Stewart and Bellet,[13] and others.

In view of this renewed interest in an abnormality which does not now appear to be as rare as was formerly supposed, it is thought desirable to record another case which presents certain features of interest.

History.—A married woman, aged 30, complained of shortness of breath on exertion, and recent swelling of her legs. Her parents were healthy and presented no abnormality. During her life up to this time she denied ever having had any severe illness other than influenza, which she had had about six months previously, and for which she had received no medical attention. She had, however, not felt quite so well as usual since that time. She had been married for one year, and had had amenorrhœa for three months, but there were no other signs of pregnancy.

Whilst yet a girl at school it had been recognised that there was something wrong with her heart, and at 15 years of age her heart lesion was attributed to rheumatism, although there was never any history of a rheumatic infection, or indeed any possible circumstance or symptom that could be assigned to this cause. For some years she had been short of breath on exertion, and she had

noticed a violent throbbing in the neck at first only made evident by effort, but latterly by any emotional upset. In recent months this violent throbbing in the neck had become a source of embarrassment to her, had been noticed by her friends, and had made her dread to meet strangers. For the last five years she had been unable to walk very far, not only on account of the dyspnœa provoked by exertion, but also because of heaviness, weakness, and pain in the legs similarly caused. As long as she could remember she had suffered from cold feet, and yet her hands and arms were always warm. Since an attack of influenza six months previously she had never quite recovered her normal state of health. She not only felt weaker but she also noticed that her legs had become more and more swollen. Coincidently she had become slightly deaf, and her eyes had become more prominent than they used to be. These symptoms finally led to her seeking medical advice.

Examination.—She was a woman of rather slender build, 5 ft. 3 in. tall, and weighed 7 st. Her state of nutrition and muscular development were moderately good. She was slightly deaf. Her face was rather flushed and the ears cyanotic. The eyes were prominent and presented a true exophthalmos. The upper extremities were warm and well coloured, and in contrast the lower extremities were cold, bluish, and œdematous. A fine tremor of her hands was present. The thyroid was symmetrically enlarged Violent pulsation was visible in the carotids, and synchronously with each pulsation the head nodded. On inspection of the chest lively pulsation was visible in the subclavian, axillary, and brachial arteries; in the deltoid folds, in the external mammary vessels on both sides, and in the superficial epigastric vessels. Pulsation was also evident in the intercostal spaces, especially on the left side. The apex impulse was seen in the sixth space in the axillary line. Posteriorly pulsation was visible in the supraspinous fossæ, and torturous hypertrophied arteries could be felt and seen in this situation. Similar vessels were observed in the interscapular regions and in the intercostal spaces. A thrill was palpable over the supraspinous fossæ.

The apex-beat was heaving and in the sixth space in the axillary line. No enlargement of the heart to the right was detected. A marked systolic thrill was felt diffusely over the precordium, and was maximum over the upper part of the chest and in the first and second right intercostal spaces. It was felt along the subclavian vessels on both sides and in the axillary artery on the right side. It was felt also over the right shoulder. A loud harsh systolic bruit was heard over the whole chest, but it was loudest in the second right intercostal space. The bruit was transmitted along the enlarged vessels. A loud diastolic murmur was heard in the second right space, and was audible along the left margin of the sternum down to the apex. On inspection of the abdomen the epigastric vessels were enlarged and pulsation plainly visible. Weak pulsation was felt in the abdominal aorta, and femoral pulsation was only just appreciable. No pulsation was evident in the popliteal, tibial, or dorsalis pedis arteries. The pulse-rate was 120. The blood pressure in the right arm was 180/20, and in the left arm 150/20. Systolic pressure in the legs was 100 mm. Crepitations were present at both bases. The liver was slightly enlarged but at this stage the spleen was impalpable.

A teleroentgenogram (Fig. 1) showed a hypertrophied heart with a large left ventricle. The aortic knuckle was barely visible. Characteristic obvious notching of the ribs due to erosion by the hypertrophied vessels was observed on both sides. An electrocardiogram showed a sinus rhythm with marked left axis deviation, and a negative T wave in lead I.

As a result of these findings an anatomical diagnosis of coarctation of the aorta, and a functional diagnosis of congestive failure was made.

Subsequent course.—Digitalis therapy and rest in bed were instituted. The œdema of the legs rapidly disappeared and the patient began to appear better. However within a week she had a rigor with pyrexia rising to 103. From this time onwards rigors and sweats were frequent with a fluctuating temperature which rose to 102° in the afternoons. At this time it was observed that her finger nails showed curving in both directions and were assuming the parrot-beak appearance. A blood count showed a leucocytosis of 12,000 with 70 per cent. polymorphs, and a blood culture showed a growth of the *Streptococcus viridans*.

For the remaining eight weeks of her life she gradually deteriorated. There was little change in her physical signs. Her fingers gradually became more clubbed. She became pale but never assumed the café-au-lait tinge that is described as typical of infective endocarditis. Conjunctival emboli appeared about seven weeks before her death. Infarction of the spleen with severe pain in the left side occurred on two occasions, and her spleen then became palpable. A few red corpuscles were found from time to time in her urine. Pyrexia persisted until her death. Towards the end a cerebral embolus led to the development of a right hemiplegia with aphasia. She died the day after this accident.

Post-mortem.—Only a limited autopsy was permitted. On opening the thorax both pleural cavities were found

FIG. 1.—Radiogram showing hypertrophy of the heart, with enlarged left ventricle but little sign of an aortic knuckle. Notching of the ribs is visible on both sides.

to contain free fluid. A little clear fluid was present in the pericardium. The heart was greatly enlarged, especially the left ventricle. The ascending part of the aorta was dilated, and the aorta gradually tapered to just beyond the origin of the left subclavian artery, where there was a marked constriction (Fig. 2). The ductus arteriosus was clearly visible a fraction of an inch proximal to the constriction of the aorta. The vessels of the arch of the aorta were considerably larger than normal as so were the innominate, the left carotid, and the left subclavian. On laying open the aorta at the site of constriction it was found to be completely occluded. Round about the site the walls were completely smooth, and there was no evidence of any infective process in this region. Patches of atheroma were present in the ascending aorta. There was a bicuspid aortic valve one cusp being slightly larger than the other (Fig. 3). The larger cusp had connected to its free border at its middle two strands of fibrous tissue that passed to the wall of the aorta and represented the site of attachment of the normal third cusp. The margins of the cusps were greatly thickened. On the right cusp there was a great mass of yellow friable vegetations and recent clot. The vegetations extended down the wall of the left ventricle for a short distance. Arising from the root of the aorta and projecting into the right auricle was a small unruptured mycotic aneurysm the size of a pea. The cavity of the left ventricle was larger than normal and the walls were an inch thick.

The septum was greatly hypertrophied and projected into the cavity of the right ventricle. Just distal to the constriction there arose three aberrant arteries. The internal mammary arteries were of the calibre of a pencil.

This case presents several points of interest. The association of infective endocarditis with coarctation is not infrequent, and in the 200 cases collected by Abbott, death from bacterial endocarditis occurred in 14. In these 14 cases mycotic changes were present near the site of coarctation in 13 and in the ascending aorta in 1. A further case has been reported by Poynton and Sheldon,[14] and in this there was ulceration of the intima distal to the constriction of the aorta.

The abnormality most frequently associated with coarctation is a bicuspid aortic valve, and this was present in the case now reported. In its clinical aspects this case was for many years considered to be one of rheumatic heart disease with aortic incompetence as the main lesion. Concentration on this aortic lesion had led to neglect of the other striking signs that she presented. Thus the diminished femoral pulsation, the symptoms of intermittent claudication, the difference in temperature between the upper and the lower extremities had all been overlooked.

Noteworthy too is the presence of an enlarged thyroid gland, probably the result of an increased blood-supply due to the rôle of the thyroid arteries in assisting a collateral circulation. Lorriga[15] was the first to note symptoms of hyperthyroidism with coarctation, and later Blackford[8] made a similar observation. Ulrich[11] reported two cases of coarctation in which there was an increased basal metabolic rate, one of which was twice operated on on account of her hyperthyroidism. He suggested that ligation of the inferior thyroid artery might be sufficient to relieve the symptoms of hyperthyroidism in these cases.

If the condition is borne in mind its recognition should be fairly simple, for it gives rise to a well-

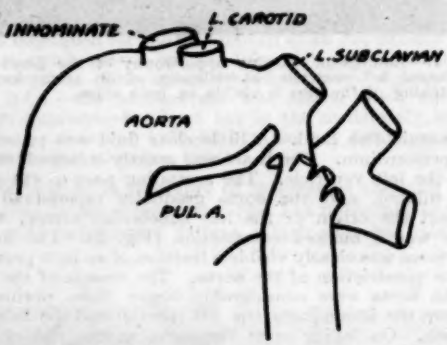

FIG. 2.—Diagram showing the constriction of the aorta.

defined clinical picture. Hypertension and cerebral accidents in the young, unexplained aortic incompetence, aberrant systolic murmurs and thrills, the general symptomatology outlined in the above case should all lead to a further review of the situation in the light of a possible coarctation. The finding of enlarged arteries in the scapular region or in the upper part of the body; delay in, reduction of, or absence of the femoral pulse; and a systolic blood pressure in the arms exceeding that in the legs should all be sufficient to clinch a diagnosis of coarctation.

These cases are compatible with a long life, the oldest in the literature surviving to the age of 92. Survival to the age of 50 and over is not uncommon. The patients are apt to die at any time, however, either from infective endocarditis, abnormal tissues

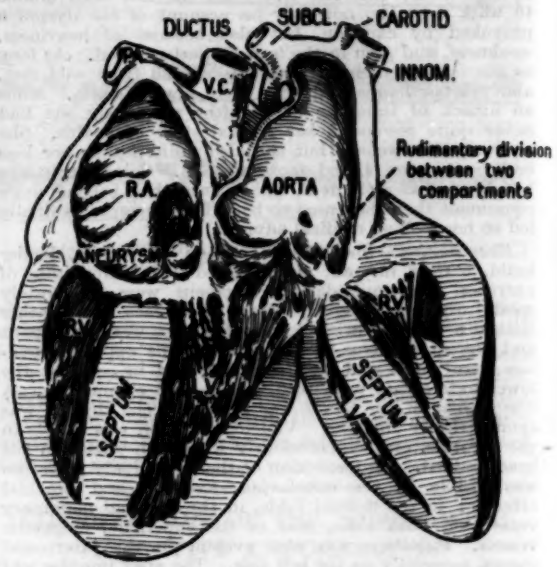

FIG. 3.—The heart opened.

being especially vulnerable to streptococcal onslaughts, or from cardiac overstrain and rupture of the aorta.

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HOVE HOSPITAL.—On Oct. 6th, with full masonic rites, Major R. Lawrence Thornton, provincial grand master of Sussex, laid the foundation-stone of the extension of this institution. The hospital is a branch of the Brighton, Hove and Preston Dispensary which was founded in 1809, and which was the parent of the Royal Sussex County Hospital established in 1828. It was in 1859 that the Hove branch was formed with 12 beds for a population of about 25,000, and it was not until 1888 that the present hospital was opened in Sackville-road. Extensions have been made from time to time to meet the demands upon the hospital with its present population of some 60,000. In the summer of last year the governors decided to go forward with a scheme to increase the number of beds from 24 to 46; enlarge the out-patients' department; provide a ward for patients able to pay moderate fees; and a children's ward. With these additions it will be possible to provide massage and therapeutic departments, and a new X ray department, and, possibly, better quarters for the medical, nursing and domestic staff. The enlargement of the hospital entails a cost of about £25,000, and the architect is Mr. J. G. Oatley.

MEDICAL SOCIETIES

ROYAL SOCIETY OF MEDICINE

SECTION OF NEUROLOGY

AT a meeting of this section held on Oct. 18th the chair was taken by Dr. S. A. KINNIER WILSON, the president, who opened a discussion on

Unsettled Questions of Neurosyphilis

He recalled an experience, 30 years ago, when he had looked down a microscope in Paris and seen the newly discovered organism of syphilis. The advance made since had been but small, owing to lack of knowledge about that organism. Most workers had now accepted, in part at least, the views put forward about the organism by Mr. J. E. R. McDonagh 20 years ago. It seemed to be pleomorphic, but we did not know how it divided, or whether it was cultivable or not. Lymph glands in an early stage of the disease were virulent although no spirochætes were found in them. The question of the existence of an intracellular or very small spore-like form had never been settled, though it would explain many problems. A spirochæte was larger than a spermatozoon, and inheritance must therefore be in a fluid form—which was not truly congenital disease. An actively motile spirochæte in an ovum must destroy it. Dr. Kinnier Wilson had known one of binovular twins be syphilitic and die while the other was healthy. The mother had had five healthy pregnancies before and 11 after, and admitted intercourse with a syphilitic man on one occasion before the birth of the twins. Her blood had never at any time shown a positive Wassermann reaction. Sometimes a whole family became syphilised; sometimes only one infant out of many; there seemed to be no rule. He did not know whether early treatment was making any difference in congenital syphilis. Some of the clinical rarities of syphilis had never been explained—for example, acute ascending meningomyelitis, and the rebelliousness to treatment of syphilitic amyotrophy and parkinsonism. He had never seen syphilitic amyotrophy in a child, though it might well be expected. Central scotoma did not occur in syphilitic optic atrophy. Why did syphilis at times produce a systemic lesion and at others a scattered one? It was often very difficult to understand the relation of symptoms to lesions, notably in general paralysis of the insane. If megalomania was a release phenomenon, why did it not occur in all forms of cortical disease allowing release? Insight varied strangely; Guy de Maupassant had been able to use his own experiences as a paralytic, and had described the phenomenon of autoscopy, while a well-known pathologist who had often described the condition in scientific papers had entirely failed to realise it when he became a victim. Mortality tables of tabes and general paralysis showed that the mortality of the latter had been halved in the last 22 years, while there had actually been an increase in deaths from tabes. These figures must have some meaning.

Mr. J. E. R. MCDONAGH said that the knowledge we thought we had acquired must be resifted. The spore was the actual cause of infection, the spirochæte being the adult male phase. Treatment and tests were non-specific, and treatment merely corrected abnormal chemical states. This conception explained the long incubation period, conceptional and congenital syphilis, and the inadequacy of cure. Nobody had syphilis a second time. The spore lay quiescent until resistance was lowered. It was the body, not the organism, that varied. Injudicious treatment had the action of an invader. Syphilis was particularly liable to precipitate arterio-sclerotic manifestations and to put on the clock of age changes. Infinitely more was to be gained by treating the patient than the infection. Syphilis behaved just like any other invader; there was nothing in syphilis qua syphilis.

TREATMENT

Dr. BUCKLEY SHARP said that the problem of treatment was how to penetrate the blood-brain barrier. Resource had to be made to chemotherapy, aided by immunity and ability to respond to chemicals injected. Treatment was usually started as soon as diagnosis was made, and cure often resulted—even to the extent of second infection. Neurosyphilis more usually followed inadequate initial treatment. The arsenic compounds in general use did not pass the blood-brain barrier, but tryparsamide did, and had a special affinity for the cells of the central nervous system. For this reason it sometimes caused amblyopia, but this complication appeared early if at all. Recovery from general paralysis had followed tryparsamide. The drug had little if any effect on the somatic manifestations and so should be combined with bismuth, which only appeared in minute quantities in the cerebro-spinal fluid. In some preparations the bismuth ion was negatively charged, and theoretically of greater penetrating power than the positively charged ion of the salicylate. Penetration was promoted by inflammation; air injections had been used to this end. Horse-serum injections, or hypotonic solutions, might be tried. Malarial treatment should be followed up by chemicals. Other forms of pyrexia gave results inferior to those of malaria. Natural malaria did not seem to protect Europeans from neurosyphilis. The most perplexing and disheartening problem was offered by tabes. No medical treatment could be relied upon to put an end to root pains or crises. Optic atrophy seemed to go on to blindness whatever was done.

CONGENITAL SYPHILIS AND MENTAL DISORDER

Dr. DAVID NABARRO spoke of congenital neurosyphilis, to which, he said, white children were ten times as susceptible as black. He reported on 428 cases at Great Ormond-street. Half the infants and 19·6 per cent. of older children had abnormal cerebro-spinal fluids. Deducting treated cases, the latter figure rose to 30 per cent. The central nervous system was therefore frequently involved, and inadequate early treatment might lead to neuro-recurrence. The cerebro-spinal fluid of infants practically always became negative after regular and thorough treatment. A mild degree of hydrocephalus was not uncommon; sluggish or unequal pupils might be the only sign; abnormal mentality was often found. General paralysis was difficult to diagnose in early childhood. Juvenile tabes was very rare, and defective vision was the outstanding sign. In third-generation syphilis the second child was often the most markedly affected and often showed nerve involvement. The blood and cerebro-spinal fluid could be made negative by thorough treatment in a very large number of the older children, but damage had often been done to the developing nervous system. The two forms worth treating were

syphilis in infants, and latent neurosyphilis in older children.

Dr. W. NICOL related experience of malarial therapy at a mental hospital. If, he said, a patient had not recovered nine months after treatment he was most unlikely ever to improve. A small proportion had shown marked improvement; in a larger proportion the progressive course had been arrested. The therapy indisputably prolonged life, and allowed many to return to their occupations outside. The dreadful semi-existence so commonly seen in earlier days never ended the life of those treated with malaria. The character of the psychosis was often altered in those not relieved. Some of the relieved had been at skilled and useful work for eight years, but often showed traces of dysarthria, and the Argyll-Robertson pupil remained. Some had relapsed after three or four years. Time alone would tell the ultimate fate of the successfully treated.

Dr. K. PADDLE said that the relation of syphilis to mental deficiency was unsettled. Not all defectives with congenital syphilis had abnormal fluids, and it was difficult to say whether those with normal fluids would have been defective in the absence of syphilis. A neuropathic taint in the family was often found in addition. In the absence of inherent neuronic weakness congenital syphilis was only in rare cases responsible for mental deficiency. Blood and cerebro-spinal fluid might become negative without any treatment.

Dr. L. C. COOK described congenital syphilis in a group of mental defectives. The only common points in their syndromes, he said, were the deficiency, the neurosyphilis, and the absence of classical signs of general paralysis. Four cases had improved and become useful hospital workers; four others were deteriorating. The prognostic significance that should be attached to pathological findings in the fluid was doubtful. Four cases were undoubtedly congenital syphilitics but had no signs of neurosyphilis except mental defect. There was one case of nævoid amentia and one of cretinism. The symptoms of these patients depended largely on the presence or absence of diplegia. There seemed to be no clear-cut mental syndrome.

DISCUSSION

Mr. R. LINDSAY REA said that he had never seen a central scotoma in any syphilitic case. Nor had he ever known macular degeneration due to syphilis. Gonorrhœal iritis occurred only in patients with dental sepsis. Many of these conditions were due not to one specific organism but to a conjunction of several factors. There must, however, be no doubt or hesitation about antisyphilitic treatment. In over 400 cases of interstitial keratitis treated he had never had a case of deafness. Treatment should not be abandoned for at least two years.

Mr. SIDNEY SCOTT said that syphilis of the vestibular or cochlear nerves was extremely difficult to diagnose. There were very few pathological otologists, because the subject needed great time and trouble. Tests must be precise, and examine the whole range of tones. He appealed for more otological material from autopsies.

Dr. HUGH GARLAND said he had seen some 27 cases within the last few months which he had called neurosyphilis on symptomatic grounds, but five males and most of the females gave no history of syphilis, and had normal fluids and bloods. They were improving under antisyphilitic treatment. Some cases, however, developed neurological signs despite thorough treatment.

Dr. FERGUS FERGUSON asked if malarial treatment were justifiable in young patients, and whether a positive blood Wassermann could be taken as diagnostic between neurasthenia and general paralysis.

Dr. LEONARD FINDLAY thought that the admission that syphilis was of bacterial origin dismissed it from the hereditary field. He had seen no disadvantage in treating the child with malaria; in fact, he had seen one cure and one arrest, in children with short histories. He had seen no benefit from other forms of treatment.

Mr. LESLIE PATON only knew of one reported case of central scotoma in syphilis, and that was doubtful. The explanation might be that the invasion of the optic nerve was sometimes parenchymatous and sometimes interstitial, the latter being high up in chiasma or tract. The artery entered the nerve half an inch behind the eye only, and so there was no invasion from the central retinal vessels. He had definitely seen a case of reinfection.

SECTION OF OBSTETRICS AND GYNÆCOLOGY

AT a meeting of this section on Oct. 19th, with Mr. EARDLEY HOLLAND, the president, in the chair, Dr. C. R. CROFT read a short paper on

Contraction Ring: Treatment by Amyl Nitrite

He said that the first serious paper on the subject was written by T. C. Smith in 1882, in which hour-glass contraction was described in 30 women (33 labours), excluding all doubtful cases, such as those of rigid os. In that series 8 mothers and 25 children were lost, the craniotomy record being 10 cases. Clifford White, in 1913, distinguished contraction ring from ordinary obstructed labour, and described expectant measures for contracted ring as useless. W. Gilliatt had reported 14 cases with 12 surviving mothers; in his fourteenth case he had applied amyl nitrite. Dr. Croft's case was as follows:—

A woman in her eleventh pregnancy, at the eighth month, had terribly severe labour pains. The membranes ruptured at 2 P.M., when she had great pain followed by considerable hæmorrhage. The vagina and lower uterine segment were found to be distended with blood clot. The uterine wall was contracted to form a rigid canal, and this canal was of a uniform diameter of 2 in. The ring was compressing the fœtus. Amyl nitrite ℥ 6 was used, and at the end of a minute, traction on the trunk brought on delivery, and this process was completed in three minutes. The hæmorrhage was only slight. In another case a magical effect was caused by only ℥ 3 of the drug.

The action of nitrites was first observed by Guthrie in 1859, when they were reported to cause, in the human subject, acceleration of pulse, throbbing of the carotids, and flushing of the face. A. Gamgee later showed that their use reduced arterial tension. Nitrites restored the diastole in smooth muscle, and their effect was always stimulating, never depressing. They therefore appeared to be of marked value in restoring the diastole in cases of spasm. One of the striking features in the use of amyl nitrite for contraction ring was the absence of post-partum hæmorrhage.

Mr. W. GILLIATT supported Dr. Croft and suggested that amyl nitrite might also be used in cases of tonically contracted uterus. He had recently described 14 cases of contraction ring, of which one was delivered after two failures with forceps. A

strong contraction of the ring could be felt. Three minims of amyl nitrite was broken under the Clover's mask, and with the next pain delivery proved to be simple and easy, and with little obvious contraction. In one case amyl nitrite had no effect, nor did gr. 1/1000 adrenaline, and a lower segment Cæsarean section was done. The ring was very marked and unusually wide, the uterus being divided almost into a figure of 8. The patient made an excellent recovery after 48 hours bronchitis. He was convinced that the use of amyl nitrite meant delivery without undue danger to the mother.

Dr. CHASSAR MOIR described the case of a woman who had been in labour two days; no success attended attempts at forceps delivery, though the head was drawn down to the vulva. The uterine contraction was felt round the neck of the fœtus. Amyl nitrite was given until the patient showed marked flushing, then anæsthesia was deepened, and delivery was easy.

Mr. JAMES WYATT related two cases in which amyl nitrite was successful after other measures had been tried. In each, the drug capsule was broken under the Clover's inhaler.

Prof. J. PRESTON MAXWELL read a paper, profusely illustrated by slides, on

Osteomalacia and Fœtal Rickets

He said that the term osteomalacia to denote a disease should be discontinued; it was no more than a symptom of what was more correctly termed "adult rickets." A typical case of the condition was the following:—

A woman came to hospital in great pain, unable to walk, and the picture of abject misery. There were deformities of spine and chest. There was also osteoporosis and practical obliteration of the vagina. After two months of treatment she went out free from pain, able to walk, and feeling happy. She had been treated with ultra-violet light, massage, and good food, and was encouraged to take as much exercise as she could.

In all these cases the blood calcium of both mother and child was low, as also was the phosphorus. The children of these mothers were often found to be the subjects of fœtal rickets. In some cases the disease affected mainly the pelvis, in others the chest, in others the spine. From the fifth year onwards rickets bore an increasingly close resemblance to osteomalacia. Many of the children with rickets had also marked tetany, and a number of them had osteoporosis, sometimes without definite evidence of fœtal rickets. In some cases giving the mother vitamin D seemed to have cured the rickets but left the osteoporosis. In many cases of fœtal rickets the fontanelles were very widely open, and the chest was more square than usual. By giving calcium, phosphorus, ergosterol, and cod-liver oil much improvement could be achieved. The food value should be at least 2500 calories, proteins 90 g., fat 75 g., calcium 0·6 g., phosphorus 1·2 g. Analyses of the dietaries of these patients showed a serious shortage of these elements. There was no reason, he concluded, why, with proper treatment and diet, all forms of rickets should not be wiped out. Prof. Maxwell acknowledged his indebtedness for the assistance rendered him in the research by his colleagues at Peiping Union Medical College.

Prof. H. M. TURNBULL said that he had examined the bones from two of the fœtuses. In the first fœtus the cartilaginous epiphyses showed absence of provisional calcification and other changes characteristic of rickets, but there was no excess of uncalcified bone, that is, of osteoid tissue. The absence of excessive osteoid tissue was attributed to osteoblastic inactivity, such as would be expected from the gross multiple food deficiency of the Chinese mothers. All bone when first formed is osteoid, but normally it becomes rapidly calcified so that only narrow seams of osteoid tissue are found. If bone formation is very slight or has ceased, little or no osteoid tissue is formed, and consequently there can then be no excess of osteoid tissue when calcification is in abeyance. In the second fœtus the complete picture of rickets was found, an excess of osteoid tissue being present in addition to the epiphyseal abnormalities. Presumably the general food deficiency of the mother had not been so great. He had not yet seen a suitably prepared section of bone from one of Prof. Maxwell's adult cases. The skeletons undoubtedly showed great osteoporosis, such as one would expect from diets deficient in much more than vitamin D. As in the hunger-osteomalacia of the war one would expect osteoblastic activity to be so poor that histological evidence of arrest of calcification in the form of excessive osteoid tissue might well be absent; epiphyseal abnormalities due to arrested calcification would be absent at ages when growth in length of the bones had ceased. Prof. Turnbull considered that there might be two diseases found at all periods of life in which there was the same histological evidence of arrest of calcification: one in which there was a deficiency of vitamin D alone, and another in which there was also a deficiency of calcium. Cases of juvenile rickets complicated by tetany and most cases of adult osteomalacia might belong to the latter.

Dr. DONALD HUNTER congratulated Prof. Maxwell on having perfected the technique for calcium balance estimations under the adverse conditions which must have existed when he began his work in China. In England to-day one found two groups of individuals suffering from osteomalacia. One of these occurred as a result of the industrial depression in the north; he had described its typical features two years ago.

One such woman, aged 33, was born in Darlington, Durham, and had always lived there. In 1922, immediately following her fourth pregnancy, she began to have pains in the left hip and back. By 1928 the total height had diminished by two inches, the limbs were bowed, the bones tender, and she was unable to walk unaided. The pelvic measurements were: interspinous, 25·4 cm.; intercristal, 28 cm.; external conjugate, 16·5 cm.; transverse diameter at outlet, 2·5 cm. The serum calcium was 9·6 mg. per 100 c.cm., and the plasma phosphorus 1·5 mg. per 100 c.cm. The calcium output was estimated in the urine and fæces for three 3-day periods, the patient being kept on a weighed diet of known low calcium content. The calcium output in urine and fæces was slightly less than in the control. Radiograms of the bones showed definite diminution in density with multiple spontaneous fractures. The calvaria showed innumerable pale rounded mottled shadows, many of them more than 1 cm. in diameter. There was a greatly deformed tri-radiate pelvis with fracture of the superior ramus of the os pubis on each side. A piece of bone removed from the inner aspect of the right tibia showed the abnormally deep osteoid zones of osteomalacia, associated with great osteoporosis. She was given a diet of high calcium content, together with large doses of calcium lactate and tablets containing vitamin D. Within three months the pain disappeared from the bones and she began to walk. Within six months she was able to get about the house, to climb the stairs unaided, and to do her usual household duties. Radiograms of the bones showed union of many of the fractures and complete healing of the defects in the calvaria.

The other cause of osteomalacia was idiopathic steatorrhœa (Gee's disease). Patients with this

disease presented the following features: fatty stools, dilatation of the colon, tetany, osteomalacia, anæmia, skin lesions, and infantilism. This clinical picture was probably dependent upon a disturbance of gastro-intestinal function resulting in deficient production, absorption, or utilisation of one or more essential factors. In 15 cases recently investigated steatorrhœa and disturbances of calcium metabolism were alone common to the whole group. Changes in the skeleton were found in all cases investigated. Radiograms showed osteoporosis and often florid rickets. In three cases histological examination of portions of bone showed osteomalacia and osteoporosis. It would therefore appear that osteomalacia may occur not only in persons deprived of calcium salts and vitamin D, but also in others born with a defective mechanism for absorption or utilisation of these substances.

Miss HONOR FELL, D.Sc., said that her interest in this subject was on the histological side. She asked whether the characteristics of the osteoid tissue in cases of fœtal rickets were identical with those of normal osteoid tissue. One of her colleagues at the Strangeways laboratory had been cultivating osteogenic tissue in a D-deficiency medium, and had found that the osteoid produced under those circumstances was very different from that produced when the tissue was cultivated in a normal medium.

Mr. VIVIAN GREEN-ARMYTAGE remarked on the difficulty of conducting such research work in the tropics owing to religious and racial prejudices, and said that the whole world was indebted for the results achieved. There were many clinical types of the disease. The general idea among practitioners was that osteomalacia was mostly a bony lesion. He used to teach that there were several clinical types—gastro-intestinal, anæmic, and rheumatic. In the presence of oral sepsis there might be a blend of all three. Much depended on whether the condition of the mother was acute at the time of pregnancy. The chronic osteomalacic never seemed to have a rickety fœtus but rather one with wasting and hæmorrhages. The tendency to exhibit the hæmorrhagic diathesis was an interesting feature of these babies. Cæsarean section on such women revealed an omentum so shrivelled up as scarcely to be found. He had always regarded "funnel pelvis" as the result of dietetic error. He asked whether Prof. Maxwell had met with many osteomalacics, either acute or chronic, who had developed eclampsia. He could not himself remember such an association. It was curious that in this disease, in which there was calcium and phosphorus deficiency, one did not find eclampsia.

Dr. LUCY WILLS said that in a series of cases tetany was the exception. In 30 cases, with two exceptions, the osteomalacia was associated with low calcium and phosphorus.

Dr. G. W. THEOBALD said he had noticed, in the tables of cases shown by Prof. Maxwell, a great variety in the amounts of blood calcium present in the different patients, the quantity varying between 3 per cent. and 8 per cent. Also the blood calcium of the fœtus was higher than that of the mother. He would like to know whether Prof. Maxwell had attempted any estimation of the diffusible calcium, as opposed to the other calcium. Calcium subserved many functions in the body, and much depended on the form in which it was present. There was a good deal of difference between the person who had regularly taken a grain of calcium and one who had not taken it and then was dosed with it, as in the latter case the mechanism for getting rid of it was probably lacking.

Prof. MAXWELL, in his reply, said he had not taken up the question of calcium-deficiency rickets and phosphorus-deficiency rickets. In China the bulk of the cases were of the first variety. It was not realised how much osteomalacia was present in countries where it was not supposed to exist. He was sure congenital defects led to osteomalacia. He was not able to answer Dr. Fell's question as to the osteoid tissue, but invited her to examine his specimens. He agreed there was a true phosphorus form of rickets which did not exhibit the tetany factor. In answer to Mr. Green-Armytage, he thought much remained yet to be done in the classification of osteomalacias. He was gradually gathering evidence as to avitaminosis in these cases. He had never seen in the same patient both osteomalacia and eclampsia. The question as to why the calcium content of the fœtus was so much higher than in the mother opened up a wide subject.

MEDICAL SOCIETY OF LONDON

AT a meeting of this society held on Oct. 22nd, Dr. A. HOPE GOSSE in the chair, the subject of discussion was

The Anæmias and their Treatment

The debate was opened by Dr. LESLIE WITTS, whose paper appears on p. 919.

Dr. F. J. POYNTON described the puzzling case of a girl of 12 who developed pernicious anæmia nine months after recovery from a secondary anæmia. She would not at first take liver, and after a time began, without the aid of drugs, to take a turn for the better. She was then persuaded to take liver, and remained well for many years, eventually dying of tuberculosis.

Mr. V. ZACHARY COPE described the case of a man, aged 21, who had empyæma which had been mistaken for thoracic tumour until it pointed, when the pus was let out. The patient still had profound anæmia, his red cells being down to a million, but it was not the pernicious form. Many remedies, including blood transfusion, were tried without benefit; then it was decided to give liver, and the first dose started a rapid recovery.

Mr. EARDLEY HOLLAND said that, if it was looked for, the so-called simple anæmia of pregnancy was found to be a very common condition, though pernicious anæmia was but very rarely associated with pregnancy. He thought there was good reason for making a distinct category of the nutritional anæmia of pregnancy. He had had, at the London Hospital, a remarkable case of this disorder: a woman, whose husband had been long out of work, had 12 children, and she had to work hard and keep the whole family on 30 shillings a week. She came to the hospital seven months' pregnant, and had simple anæmia, the hæmoglobin being 25 per cent. Rest in bed and good food soon put her right. A fallacy common in the profession as well as among nurses was the idea that meat was not good for pregnant women; he thought that abstention from meat during the stress of childbearing might contribute largely to this form of anæmia. The obstetrician had to be on the look-out also for anæmia in association with albuminuric pregnancy; these cases responded well to large doses of iron. There was also an anæmia associated with the climacteric, occurring in women

who had irregular menstruation profuse in quantity. Recognition that such cases needed only treatment with iron would save many hysterectomies or artificial menopauses.

Dr. F. PARKES WEBER asked how common real aplastic anæmia was. He had seen one case of acute aplastic anæmia, which did not present an opportunity for transfusion, and in due course the patient died because he ceased to form red blood-cells. He considered that such cases were excessively rare and that many cases called aplastic anæmia were either myelosis or lymphadenosis.

Dr. G. W. GOODHART said he would have liked to hear Mr. Eardley Holland's views on the anæmias of small infants. He had been struck by the work of Dr. Helen Mackay, and was horrified to see advice issued by the Ministry of Health, following that work, to the effect that small anæmic infants should be given doses of iron with their food. Surely it was more biological to give iron to the mother and let her supply the infant with what it required. He would like to know whether anæmia really was as common in those infants as Dr. Mackay's work suggested. At present there seemed to be a general tendency to treat with transfusion women who had anæmia following abortion; his suggestion was that transfusion was often done when it was unnecessary, and that all such cases usually required was iron. With regard to the cases of severe anæmia which made a rapid recovery to complete health, such as one referred to by Dr. Poynton, no adequate explanation had been offered for this dramatic recovery.

Mr. V. B. GREEN-ARMYTAGE differed from the opinion that the megalocytic type of anæmia was rare in this country. Numbers of young married women were arriving in this country from the tropics, Brazil, and South Africa, to be treated for anæmia during their pregnancy; for these he had found Marmite successful where liver and iron had failed. If more than 100 to 200 c.cm. of blood was transfused, these women were very liable to abort or miscarry, or have a premature labour.

Dr. P. H. MANSON-BAHR remarked that those who practised tropical medicine might be said to wallow in anæmia. There were met with in the tropics anæmias accompanied by leukæmia. Both sprue and kala-azar were associated with stomatitis, and especially the latter, in which the terminal symptom was cancrum oris, like that seen in agranulocytosis. Could it be the fact that a secondary leucopenia was brought about by the action of the parasite, and that the leucopenia rather than the disease caused the stomatitis? The aphthous stomatitis of sprue was almost always associated with moderate leucopenia—i.e., 4000 or 5000 whites. There was one particular infection in the tropics which produced an amazing anæmia—viz., oroya fever—due to an intracapsular parasite, the Bartonella. A puzzling anæmia was that associated with ankylostomiasis, for though this form of anæmia was very well known in the tropics, in the Pacific Islands natives might be heavily infected with ankylostomes without suffering from anæmia which occurred only in those who were grossly ill-nourished, overworked, and harassed. An anæmia about which we were still ignorant was that rarely associated with the broad tapeworm. He asked if Dr. Witts could say what was the function of the spleen in some of these anæmias which were associated with splenomegaly; recovered cases of this kind had been reported in pre-liver days. Stephen Mackenzie watched a case for 50 years, that of a printer. As early as 1880 Sir Patrick Manson had treated his cases of sprue with liver, having got the idea from the Chinese.

Dr. W. BURTON WOOD asked Dr. Witts to elaborate his remarks on the treatment of agranulocytic anæmia.

REPLY

Dr. WITTS, in reply, said that the remissions in pernicious anæmia were still a mystery; similar strange remissions were seen in rickets and scurvy. As Prof. E. Mellanby had said in his recent book, though the history of remittence had often led to the conclusion that a bacterial or a spirochætal infection was being dealt with a remitting disorder might be of purely nutritional origin. When better methods of testing digestive power had been evolved it was likely that variations in the patients' secretions and in their power of absorption would be found. Any gross disease in the small intestine might easily lead to severe anæmia. In difficult cases he advocated the use of both iron and liver, as a double deficiency was always possible. Nucleotide seemed to be most valuable in classical cases of achromocytic angina, which former generations called "putrid sore-throat."

The suggestion that meat was poison to pregnant women was a mischievous one which should be strongly combated; the pregnant woman should have an adequate supply of red meat, green vegetables, and fruit. Anæmia at the menopause was a complicated question; he was sure that many women bled because they were anæmic. In many of these women there seemed to be a predisposition to anæmia, which was not due to their menorrhagia. Anæmia associated with the menopause might be very difficult to control, and an artificial menopause might be essential, though not for those who had only bled moderately. This procedure, which practitioners were loath to adopt, has cut short years of ill-health. He saw a surprising number of atypical cases of leukæmia in patients who came with apparently profound anæmia. A number of cases masqueraded as aplastic anæmia which, post mortem, were found to have a red bone-marrow. There was probably some key, if it could have been found, which might have unlocked that marrow; iron would not do it. He did not know why Dr. Goodhart should be horrified by the giving of iron to children; he was not sure that attention to the mothers would preserve the children from anæmia. Many children of good families looked as if they would benefit from a liberal supply of iron. Most children took it well. Certainly such conditions as otitis media were twice as common in untreated children as in those who were given iron. But he agreed that too ready a resort to transfusion was to be deprecated.

The relationship of the spleen to anæmia was a difficult question. There was some sympathy between the spleen and the bone-marrow, which many had tried to explore. Before the advent of the liver treatment, splenectomy was practised for pernicious anæmia, and often marked temporary remission was produced. To patients with chronic leucopenia he gave plenty of vitamins and nuclein-containing food, such as sweetbread, liver, and kidneys, and ascertained whether the possibility of the patient had taken toxic drugs. A well-known surgeon with chronic leucopenia had been taking salol for some years for colitis, and had greatly improved after giving up this drug and taking a generous diet. Ultra-violet therapy also seemed to help in such cases. Nucleotide was not well tolerated by most patients, and was the kind of thing he kept in hand against the time when something had happened.

MEDICAL SOCIETY OF INDIVIDUAL PSYCHOLOGY

AT an extraordinary general meeting of this society held in London on Oct. 11th, with Dr. J. C. YOUNG in the chair, the following resolution was passed. "The objects of the society shall be (1) to advocate and extend the general psychological approach to medicine; and (2) to promote the study and discussion of individual psychology; membership shall neither require nor imply formal adherence to any particular school of psychology."

The CHAIRMAN gave an address entitled

Awareness in Psychological Medicine

The consciousness of the higher animals, he said, differs from the consciousness of the human animal in that the latter, in addition to the vital or organic memory common to both, disposes of a *voluntary* capacity for recollection not found in the other animals. (The elephant's long memory for kindnesses and injuries, for example, is a function of vital memory rather than voluntary recollection.) Nevertheless, in so far as human voluntary recollection consists in the last resort in the capacity to delay and to coördinate reflexes, depending somatically on a highly differentiated nervous organisation of highly differentiated parts, the difference between human and animal consciousness may be said to be only one of degree. There is no essential difference in kind. Similarly there are differences, as between man and man, in degree of human consciousness, almost amounting to a difference in kind. The higher degrees of consciousness imply higher degrees of integration with less liability to the disintegration or disassociation which is the essential feature in neurosis and psychosis. Dr. Young thought it useful to designate these higher degrees as awareness. No sharp dividing line could be drawn between awareness and consciousness, but awareness connoted a degree of self-awareness of motive and life goal which was deficient in the neurotic and practically extinguished in the psychotic. Awareness did not happen mechanically, nor could it be achieved by mechanical reading of text-books. It required work on oneself and a certain disciplinary sincerity. Only in virtue of awareness born of experience recognised in *himself* of the psychological realities and mechanisms which have overwhelmed his patients can the physician in psychological medicine hope to cure or alleviate their sufferings of *unawareness* of disassociation and disintegration. Dr. Young gave examples of his recognition in himself of neurotic and psychotic mechanisms. Awareness, or imaginative understanding, begets awareness. In individual psychology this desideratum in the physician takes precedence over every kind of technological expertise both in general medicine and surgery, and more especially in psychological medicine.

PATHOLOGICAL SOCIETY OF MANCHESTER

AT a meeting of this society on Oct. 10th, Prof. S. L. BAKER delivered a presidential address on

Cholesterol and Disease

Cholesterol deposits, he said, might be either generalised, when they were of metabolic origin, or local, following local destruction of tissue. Arterial disease was the most important condition in which cholesterol deposits were found, and had been much studied experimentally. Several distinct processes were concerned in the production of the common forms of arterial hardening comprised by the term arterio-sclerosis. Of these processes the most important was athero-sclerosis, characterised by the development of fatty (lipoid) streaks and patches and atheromatous deposits, particularly in the aorta and its main branches. Rabbits whose diet contained powdered cholesterol showed such lesions. Their development was due to the greatly raised blood cholesterol. The lesions were closely similar, both topographically and histologically, to those seen in human athero-sclerosis. The type of lesion depended on the time the rabbits were allowed to survive. Fatty streaks and patches were early lesions, while raised patches with intimal fibrosis occurred later. Spontaneous athero-sclerosis was very rare in the rabbit, but in man it was present in some degree in almost all subjects. The fatty (lipoid) streaks seen in children had been regarded as toxic effects, but it had been found that their incidence was correlated with age and not with toxic conditions. It was probable that the slighter lipoid deposits might disappear, but deposits tended to increase with age. In diabetes and the nephrotic type of renal disease, conditions in which hypercholesterolæmia was present, there was an increased tendency to athero-sclerosis. There was no evidence that hypercholesterolæmia led to hyperpiesia, but increased strain on the arterial wall predisposed to lipoid deposits. Extensive athero-sclerosis might be found in subjects not showing hypercholesterolæmia, but work on rabbits had shown that atheromatous deposits following a temporary rise in blood cholesterol remained in the arterial walls for long periods. The experimental evidence incriminating cholesterol in the production of athero-sclerosis was abundant, but much further systematic work on the fluctuations of blood cholesterol in the human subject was needed to throw further light on the problem.

ROYAL ACADEMY OF MEDICINE IN IRELAND

AT a meeting of the section of medicine on Oct. 5th, with Dr. V. M. SYNGE, the president, in the chair, Dr. GUSTAV MAURER, medical superintendent of the Sanatorium Guardaval, Davos, read a paper on a modification of the

Jacobæus Operation for Pleural Adhesions

in cases of artificial pneumothorax, describing his technique for the examination and delimitation of adhesions with a thoracoscope, their trans-illumination with an instrument of his own design, and their enucleation from the chest wall. The advantages of this method were absence of shock and a great reduction in the incidence of post-operative complications, such as empyema, hæmorrhage, and pleural effusion. More than 800 cases had been operated upon with a mortality of less than ½ per cent. The paper was illustrated with lantern slides and X ray plates.

The PRESIDENT of the ACADEMY (Mr. R. A. Stoney) said that in Ireland the surgical treatment of tuberculosis was still in an adolescent stage. In the surgical treatment of tuberculosis the close coöperation of physician, surgeon, and radiologist was most important. The work was extremely technical, and the results obtained by Dr. Maurer seemed to him almost miraculous.—Dr. HAROLD QUINLAN said he was attached to the out-patient department of a hospital

in which he saw from 120 to 150 cases of tuberculosis a year. Of these about 66 per cent. were unilateral, many of them on that account being suitable for pneumothorax. He had seen some cases in which adhesions had been cut, but he thought it was difficult to find cases suitable for this procedure. He did not like interfering with adhesions unless they were very thin and fibrous in character.—Dr. W. R. F. COLLIS thought the cases of bilateral pneumothorax were particularly interesting. It was a line of treatment not definitely in the province of either surgeon or physician, which might be more widely adopted than was the case at present.—Dr. J. B. MAGENNIS was amazed at the successful results obtained by Dr. Maurer in cases which would have been looked upon as hopeless. Until one had interfered with an adhesion without knowing, it was impossible to realise the importance of trans-illumination. It was remarkable how little reaction there was on the part of the pleura in Dr. Maurer's cases.—Dr. SYNGE remarked on the very small number of cases in which an exudate had occurred.

REVIEWS AND NOTICES OF BOOKS

Nutrition and Disease

The Interaction of Clinical and Experimental Work. By EDWARD MELLANBY, M.D., F.R.C.P., F.R.S., late Professor of Pharmacology, University of Sheffield; Consulting Physician, Royal Infirmary, Sheffield; Secretary, Medical Research Council. London: Oliver and Boyd. 1934. Pp. 171. 8*s.* 6*d.*

THE extent to which progress in medical art and science depends on coöperation and mutual understanding between research workers and clinicians is clearly demonstrated by Prof. Mellanby in this book, which is based on the Croonian lectures delivered to the Royal College of Physicians in 1933. He points out that the interaction between the laboratory and the ward not only prevents unjustifiable claims being advanced for some new product or therapeutic agent but stimulates research by revealing problems for the solution of which the clinician must turn to the laboratory. The old adage on "the proof of the pudding" has particular significance in relation to the clinical value of the results of laboratory researches on nutrition. It is apparent throughout that Prof. Mellanby thinks in terms of the patient, his outlook being balanced by his unrivalled dual experience as clinician and research worker.

In this work he covers a vast field and critically examines the present position of the study of nutrition and its relation to disease in general and certain diseases in particular. The illustrations, bibliographies, and, above all, the condensed analyses of some of the most laborious researches which have been conducted in recent times are admirable. Commenting on the limitations of pure laboratory research, he remarks in respect of the intensive studies on vitamin D that the tendency has been to overlook the significance of other essential constituents of the diet which influence the calcification and growth of bone as, for example, calcium and phosphorus, deficiencies of which cannot be compensated for however much vitamin D is supplied. In a case of rickets he holds that it is better to give cod-liver oil than vitamin D by itself, since most rachitic children suffer from other forms of malnutrition than that due only to vitamin-D deficiency, and the vitamin A and iodine in the oil tend to do them good. In the chapter devoted to dental structure and disease he gives a clear and convincing digest of the researches of May Mellanby. In the sections on the thyroid gland, nutrition and infection, and nutritional influences on the nervous system, many questions are put forward, the answer to which will only be found by further research in the laboratory and observation in the wards; these include, for example, the relation between hyperthyroidism and the state of activity of the pituitary and suprarenal glands, dietetic factors influencing susceptibility to infection, and nutritional treatment for degenerative conditions of the nervous system.

The publication of this work is timely, for the significance of nutrition to health and disease is attracting world-wide interest. It is to be hoped that Prof. Mellanby's plea for wider clinical opportunity for the laboratory worker, including the actual control of beds, will meet with response; that this is in the interests of the patient and the community as well as of medical science is amply proved by the labours of those whose work is summarised, analysed, and criticised in this readable book.

Allergy and Applied Immunology

Second edition. By WARREN T. VAUGHAN, M.D., Richmond, Virginia. London: Henry Kimpton. 1934. Pp. 420. 21*s.*

THIS handbook on allergy is a practical treatise, which is nevertheless as fascinating as the early accounts of asthma and hay-fever written in the nineteenth century by physicians such as Bostock, Blackley, and Salter, before the discovery of anaphylaxis. It is written in an easy, conversational style, and though it is addressed both to doctors and patients, it is not too erudite for the one or too simple for the other. Readers of detective stories will be constantly reminded of Dr. Thorndyke and the Munera Pulveris, for Dr. Vaughan is full of equally pertinent information, and practises the same painstaking investigation of his cases. "Patience and stick-to-it-iveness are most essential if the allergic wishes to get the maximum benefit from his treatment," he writes, and goes on to describe the 12 months of study which necessitated the placing of mould plates in each room of the patient's house, before it was discovered that one of his patients was sensitive to a particular variety of mould, in addition to cotton seed and cotton dust; with avoidance of these substances he remained perfectly free from asthma.

Dr. Vaughan holds strongly the opinion that while conditions like asthma and eczema may be temporarily relieved by local treatment, by medication, and by general hygienic measures, permanent relief can only be obtained by discovery of the allergens which are responsible for the symptoms, and his book is largely a description of the common allergens and their detection. It includes elaborate botanical surveys, biological classifications of allergens, and analyses of common substances, and illustrates the immense amount of detailed work that has been done on this subject in America. We learn that over a third of the area of a populous city like Chicago is given over to grass and weeds, with the consequent local production of enormous masses of pollen; that if

you are sensitive to cotton seed you may get asthma after playing on a midget golf course; that rabbit fur masquerades under a variety of imposing names; that silk floss rarely owes anything to the silkworm, and that goat hair is present in summer suits and railway carriages.

Dr. Vaughan is, we believe, wrong in thinking that general practitioners pay little attention to allergy; in this country at any rate many men in general practice have a keen interest in its capricious manifestations. It may be true that "allergy is a very highly specialised field and one in which the family physician, as a rule, has little time to delve"; the same might be said about psychotherapy. But most people with allergic diseases and psychoneuroses are quite unable to expend the time and money necessary for an elaborate investigation, and much good can be done in a simple way by doctors whose professional education includes the general principles of these specialties. Dr. Vaughan's handbook is an ideal introduction to the subject of allergy.

Embryology and Genetics

By THOMAS HUNT MORGAN, Professor of Biology, California Institute of Technology, New York. Columbia University Press. London: Humphry Milford, Oxford University Press. 1934. Pp. 258. 15*s*.

THE science of genetics, says Prof. Morgan, has now become so interwoven with that of experimental embryology that together they can now be held to tell a single story. Unfortunately this book tells it very badly. It is addressed, we are informed on the dust cover, to "students in colleges and in medical schools that do not get, in their course in embryology, the broader philosophical outlook"—a vague dedication of which the wording is typical of the literary style of the book. What is the broader philosophical outlook which students do not get in their course in embryology? It appears to be as follows: The common meeting point of embryology and genetics is to be found in the relation between the chromosomes and the protoplasm of the cell wherein the influence of the genes comes to visible expression. Two views are commonly held as to the nature of this relation. According to the first, all the genes are acting all the time in the same way; according to the second different batteries of genes come into action as development proceeds. Both are open to objections which the author thinks may be surmounted by the following suggestion: it is known, he says, that the protoplasm in different parts of the egg is somewhat different, and that the differences become more conspicuous as the cleavage proceeds, owing to the movement of material that then takes place. From the protoplasm are derived the materials for the growth of the chromatin and for the substances manufactured by the genes. The initial differences in the protoplasm in regions may be supposed to affect the activity of the genes. These will then affect the protoplasm, thus starting a new series of reciprocal reactions.

Though the book contains short descriptions of an enormous number of experiments and is full of interesting material, it bears the signs of having been hastily written. The presentation is disconnected, and throughout the reader finds himself at one moment credited with ignorance of the simplest elements of embryology and genetics, and at the next with a specialised knowledge of these subjects. He will find his mind oscillating between boredom with descriptions of familiar processes such as mitosis and meiosis, and total lack of comprehension in the face of some over-compressed account of a complicated experiment. After finishing the book he will certainly be convinced that much ingenious and subtle work has been done in the fields of both genetics and embryology; but he will find it difficult to convince himself that its author has effected a comprehensible synthesis between the two or that he has woven them together into "a single story." That Prof. Morgan's work on genetics establishes him as one of the constructive thinkers of our time is everywhere acknowledged. This very fact makes it especially regrettable that he does not take more trouble over the writing of his popular works.

Medical Bacteriology

Descriptive and Applied including Elementary Helminthology. Second edition. By L. E. H. WHITBY, C.V.O., M.A., M.D.Camb., F.R.C.P.Lond., D.P.H., Bacteriologist, Bland-Sutton Institute of Pathology, Middlesex Hospital. London: J. and A. Churchill. 1934. Pp. 338. 10*s*. 6*d*.

THE purpose of this book is to give the overburdened medical student a reasonable minimum of knowledge, and this has been done in a conscientious way. The practical and clinical applications of bacteriology are everywhere emphasised and the student can rely on obtaining a sound knowledge of this aspect of the subject. The short chapter on helminth infections is hardly adequate to teach the reader anything of importance about one of the most fascinating sections of medicine and biology, but is probably all that the qualifying student can digest in a last-minute effort to repair what is generally a hiatus in his learning and his teaching. This does not come into the category of fully fledged text-books; it will appeal less to the student already fired with an interest in bacteriology for its own sake than to one whose bias is essentially clinical.

The Span of Life

By FRANKLIN R. NUZUM, B.S., M.D., F.A.C.P., Medical Director, Santa Barbara Cottage Hospital. London: Baillière, Tindall and Cox. Pp. 108. 9*s*.

THIS book is designed to help the public still further to increase the span of life, which, according to Dr. Nuzum, has already increased on the average by 25 years during the last 120 years. To this end he has set out a brief account of the functions of the heart, kidneys, and blood-vessels, illustrated by simple diagrams. The important changes which may occur in the structure of these tissues is related, the cause being given as far as it is known and suggestions for prevention; finally an outline for the proper management of bodies somewhat damaged by pathological processes once they are established is set out. The book is written in such a way that a lay reader could readily understand it; whether its study would depress rather than invigorate him is another question. In the section on the symptomatology of heart disease undue fatigue is given as often the first sign to be noted, "a weariness for which there is no unaccountable reason," and further, "after a night's rest the individual may be as tired as though he had not slept"; these pronouncements might well convince every neurotic who chances on this book to think he has heart disease. The author's outlook will appeal to the middle-aged and elderly rather than the young.

THE LANCET

LONDON: SATURDAY, OCTOBER 27, 1934

THE MINISTER OF HEALTH AS JUDGE

THE critics of Whitehall bureaucracy will not overlook the Court of Appeal's decision in the Jarrow clearance order case. Property-owners in the clearance area said that the Minister of Health had not fairly exercised the quasi-judicial powers entrusted to him by the Housing Acts. Mr. Justice SWIFT thought that the Minister had acted correctly; the Court of Appeal thought otherwise. All the excitement that was occasioned by Arlidge's action against the Local Government Board nearly 20 years ago is likely to be revived.

The Jarrow town council, having framed its clearance order, a public inquiry was held at Jarrow by an inspector of the Ministry; several owners of property in the area then gave evidence that their property could be made fit for habitation by the execution of certain repairs which they were ready to carry out. A few months later the inspector called a meeting between the medical officer of health and the property-owners in order to get the parties to agree on the specific repairs. Agreement was reached but the town council still considered a demolition order to be required. After correspondence between the town council and the Ministry, it was proposed that a deputation from the council should wait upon the Minister. This course was not found acceptable, but it was arranged that three members of the Minister's staff should visit Jarrow. They did so last January, inspecting the area and interviewing the members of the council who had been proposed as delegates. On March 27th the Minister confirmed the clearance order. The property-owners applied to the High Court to quash the order on the ground that the Minister was required by the Housing Act to hold a public inquiry and to take into consideration the report and any objections. They complained that he had imperfectly exercised his quasi-judicial function inasmuch as the January visit to Jarrow took place without their receiving notice and having an opportunity to be present. It also seems to have been the fact that a letter from the council to the Ministry put forward the views of the borough engineer who had not given evidence at the public inquiry. The gravamen was that the Minister had not observed the rules of natural justice; he had received evidence from, and had consulted with, one of the parties without allowing the other parties the chance to test or contradict that evidence; and, although the public inquiry was the prescribed occasion for receiving evidence, the Ministry had also received evidence outside the inquiry. In reply, it was contended for the Minister that the result of the inquiry was not binding on the Minister; he could not proceed on the result of the inquiry alone; he must, for instance, satisfy himself of the adequacy of the town council's finances; for this purpose he was free to obtain any material facts in an administrative rather than a judicial manner and could inform his mind in any way he pleased, provided that he acted without bias. Mr. Justice SWIFT accepted this argument and declined to interfere with the clearance order; he held that the Minister had complied with the Act and could make his own inquiries if he did so fairly and honestly. But the Court of Appeal now says that it is not enough for the Minister to comply with the Act; he must obey the common-law rule that a quasi-judicial officer must exercise his powers in accordance with natural justice; he must hear both sides and he must not hear one side in the absence of the other. The clearance order has therefore been quashed.

The House of Lords decided, in Rex *v.* Local Government Board (ex-parte Arlidge), that a departmental inquiry and quasi-judicial decision need not follow the precise lines of litigation in the law courts. Mr. Arlidge demanded the right to see the inspector's report and to reply thereto. His counsel talked about the common-law right of Mr. Arlidge to "stand before his judge" and to "enjoy the bound and rebound of ideas and arguments between the bench and the bar." The judges of the House of Lords denied the necessity. Lawyers, they said, might prefer lawyer-like methods; but, if the statute did not prescribe any special procedure for the department, the department could follow its own practice. Lord SHAW said it would be presumption for the judges to impose their own methods on administrative or executive officers; it was a wholly unfounded assumption to say that the methods of natural justice were ex-necessitate those of courts of justice. Lord HALDANE pointed out that Parliament puts many duties on a Minister and cannot expect him to do everything personally; he must obtain his information vicariously through officials. Nevertheless the House of Lords left no doubt in Arlidge's case that the judges will interfere if a Minister's judicial functions are not fairly exercised; the justice may be "natural" and the procedure may be informal and non-judicial, but the functions must be exercised in good faith and uninfluenced by extraneous and irrelevant considerations. The Donoughmore Committee's report on Ministers' Powers vigorously recommended that in this respect the Supreme Court should not relax its vigilance. The recent Jarrow decision is important. It will complicate the course of housing administration if it labels as unfair the omission to let any complainant see all the correspondence which passes between the department and the local authority.

MENTAL HOSPITAL AS TEACHING CENTRE

AN acquaintance with mental disorder is being recognised more and more as indispensable for a fair start in general practice, but an overcrowded curriculum affords the student little chance of gaining it. Even when he is qualified his position

in relation to psychiatry is different from what it is in relation to other general practitioner specialties such as pædiatrics or obstetrics. If he wishes to learn more about these he can take a resident post for six months or a year, but to learn more about mental disorder he must join a service under certain obligations and restrictions, and he will find that a fair proportion of his time will be occupied with administrative duties which do not help him directly in his search for medical knowledge. At one mental hospital at all events the obstacles in the way of providing short-term resident post-graduate posts have been overcome. Authority has been obtained by the Hill End Hospital for Mental and Nervous Disorders (alias the Herts County Mental Hospital) at St. Albans for the appointment of two house physicians for 6 or 12 months. The posts are held under the usual conditions of temporary resident appointments, and administrative duties peculiar to the mental hospital service are reduced to a minimum as regards the house physicians. They will be taught, with special reference to subsequent work as general practitioners, how to recognise mental disease, how to deal with it in its minor forms, and the physical problems associated with the care of frank psychoses. The man or woman who is appointed to one of these posts at Hill End will find all that is newest in mental hospital treatment.

The scheme for the appointment of house physicians is only one of the constructive ideas that are materialising there. The nurses, for example, get a thorough grounding in psychiatric approach, and they all undergo training in occupational therapy and socialisation. It is hardly a coincidence that this hospital has seldom been short of nurses; there is in fact usually a waiting-list. There is also an out-patient and child guidance clinic. The medical superintendent sees patients at the general hospital as a member of its honorary staff, selecting from among the out-patients those suitable for intensive psychological treatment at the mental hospital clinic. The patients reach this clinic without passing closed wards or being aware of any restraint, and are there treated by a visiting psychiatrist from London. The medical superintendent, while admitting that the claims of administration make the devotion of time to psychotherapy to any adequate extent almost impossible, also points out that his position as head of the institution is inseparably associated with an authority which might, perhaps must, be a hindrance in psychological treatment. The clinic is run on the team principle. A trained worker formerly on the staff of one of the London voluntary hospitals is in charge of social work, home visiting, and after-care. There is a psychologist, through whom vocational guidance and remedial coaching can be arranged for patients. And there is a play-room for investigation of children.

The committee of the hospital has approved the provision of two bursaries for training post-graduate psychiatrists and social workers, and the whole clinic is designed to be a teaching centre. The house physicians may attend the bi-weekly clinic conference, where cases and methods are discussed. Patients come to the clinic from sources other than the hospital out-patient room; educational authorities, social agencies, probation officers, private doctors, and others supply them. Selected in-patients from the hospital come for treatment, and here they may continue their treatment without interruption after discharge. The hospital is to be congratulated on the foresight and generosity of a committee which has approved these measures and has endowed the first year's working of the clinic.

HYPERTHYROIDISM AND HIGH BLOOD PRESSURE

WITHIN the last few years it has been realised that excessive thyroid secretion is often responsible for cardiac disorders—especially in women from middle age onwards—and that the heart may be suffering damage even when the classical picture of thyroid intoxication is inconspicuous or incomplete. In medicine an advance in one direction is apt to bring progress in another, and the use of subtotal thyroidectomy in these cases of "masked hyperthyroidism" has led by chance to the discovery that in patients with heart disease the removal of the thyroid may be very beneficial even when the gland is normal. Since BLUMGART, LEVINE, and BERLIN originally reported this[1] a considerable number of cardiac invalids who had failed to respond to other measures have had their thyroids removed, and it appears that in all forms of organic heart disease the immediate effect on symptoms is favourable—a conclusion lately supported by some encouraging results obtained in this country.[2] It now seems possible that the study of toxic goitre in those past early womanhood will throw light on another symptom—namely, arterial hypertension.

The diagnosis of "essential" hypertension, or high blood pressure of unknown origin, is still required all too often, but the list of conditions with which hypertension is associated is rapidly extending—including, as it does, those which interfere with renal function, toxæmias such as those of lead and pregnancy, and certain endocrine disorders, notably some tumours of the suprarenal and the basophil adenoma of the pituitary. The bearing of some of these conditions on the problem of high blood pressure as a whole was discussed by Prof. DE WESSELOW in the Croonian lectures,[3] and in our present issue Dr. PARKINSON and Dr. HOYLE discuss particularly the relation between arterial hypertension and thyroid activity. In classical Graves's disease seen in a young adult or adolescent the systolic blood pressure is moderately raised while the diastolic is either unaffected or rather lower than normal. But in the thyrotoxicosis of the middle-aged many observers have found, in a high proportion of patients, a

[1] Blumgart, H. L., Levine, S. A., and Berlin, D. D.: Arch. Internal Med., 1933 li., 866. See THE LANCET, 1934, i., 303.
[2] Brenner, O., Donovan, H., and Murtagh, B. L. S.: Brit. Med. Jour., Oct. 6th, 1934, p. 624.
[3] de Wesselow, O. L. V.: THE LANCET, Sept. 15th, 22nd, and 29th, 1934.

true hypertension in the sense that both systolic and diastolic pressures are permanently high; and although this is the age when high pressure is common, the frequency of its association with goitre seems to be more than accidental. However, while PARKINSON and HOYLE think that goitre and hypertension are in some way related they do not suppose thyroid over-activity to be the sole cause of the rise in blood pressure. The combination is seen chiefly in women between the ages of 40 and 70; the sex-incidence in their series of 100 cases is much the same as that of thyrotoxicosis in general (that is, about 90 per cent. females) but in strong contrast to that of hypertension in general which affects men and women about equally. In diagnosis the presence of even one or two of the general effects of thyrotoxicosis, such as wasting, nervousness, weakness, tremor, and sweating, is held to be suggestive, together with an enlarged thyroid as judged by clinical or (with retrosternal goitre) radiographic examination. As a rule, however, the enlargement is slight, and it must be carefully sought, since very small goitres are capable of doing much harm to the cardiovascular system; and though it may be true that the thyroid cannot be toxic when it remains normal in size, it can undoubtedly be toxic at a time when no enlargement can be made out before operation. Exophthalmos, again, is often absent, and estimation of the basal metabolic rate gives little help in diagnosis, since it is not necessarily raised in cardiovascular disease of goitrous origin and, on the other hand, may be raised in diseases unconnected with the thyroid. Indeed, measurement of the impedance angle, the new method of diagnosis dependent on certain electrical properties of the body,[4] seems to be a more specific test of thyrotoxicosis than estimation of the basal metabolic rate, and if its early promise is fulfilled it should be of great value in distinguishing the type of case under consideration. As for the cardiovascular symptoms the commonest, apart from dyspnœa, is palpitation, and this depends on either a simple tachycardia or auricular fibrillation. Both are very important from the diagnostic point of view. Long-persistent simple tachycardia is uncommon in arterial hypertension before the stage of heart failure, and auricular fibrillation is rare at any stage; hence the significance of PARKINSON and HOYLE's finding that 90 per cent. of their patients had either tachycardia with normal rhythm or auricular fibrillation. Though the diastolic pressure is usually high (90 mm. Hg or more) the pulse pressure, as in Graves's disease, is very often increased. On radiography the heart may show the features found in unselected cases of toxic goitre—that is, some general enlargement, together with prominence of the pulmonary artery—while particular enlargement of the left ventricle and uncoiling of the aorta testify to high arterial tension present or in the past.

The recently recognised importance of thyrotoxicosis as a cause of auricular fibrillation, both in its paroxysmal and permanent forms, has led us to suspect the thyroid when there is no other obvious cause for the arrhythmia. Similarly we should now be led to think of a thyroid factor when there is hypertension, either coupled with tachycardia and high pulse pressure or associated with auricular fibrillation. When there is fibrillation it may be impossible, with the manometer, to determine the presence of high arterial tension, but evidence of its existence in the past may be seen in the typical radiographic changes. In treatment subtotal thyroidectomy is considered advisable, as in toxic goitre generally, for a majority of patients. The surgical treatment of goitre is admittedly a makeshift which leaves much to be desired, but it remains the method of choice in a high proportion of all forms of the disease; one can only hope that the future may provide something less drastic, and the recent production of a serum inhibitory to the pituitary thyrotropic hormone [5] is presumably a step in the right direction. Whether operation is considered necessary or not, iodine will rightly find a place in treatment. An old remedy among the many prescribed for hypertensives, iodine has lately been largely discredited, but it may well be asked whether in some of the cases where it seemed to do good it has not done it through the thyroid. On the other hand, thyroid extract, sometimes used for hypertension in women at the climacteric, can do nothing but harm and must be withheld unless thyrotoxicosis can be fully excluded. The effect of thyroidectomy on the cardiac symptoms of toxic goitre is often remarkable, and it can turn a bedridden patient into an almost normal person; the level assumed by the blood pressure after operation is the subject of various opinions, but apparently it often remains high. Sometimes the hypertension may fall into the category of permanent and irreversible changes to which Sir THOMAS DUNHILL has drawn attention; they are the result of long-standing thyrotoxicosis, and although thyroidectomy may be well worth while, they cannot be abolished by operation. But even if treatment will not always favourably affect arterial hypertension associated with goitre, its recognition as a symptom of this disease, and the attention that this directs to what otherwise might escape notice, is of importance.

THE scholarship offered by the Association of Surgeons of Great Britain and Ireland, and announced in our advertisement columns, is designed for the assistance of young surgeons, possibly not yet on the staffs of hospitals, who may wish to spend a year in special study or research. The wording of the condition applying to it is left purposely vague so that candidates may propose any kind of surgical work. For example, laboratory or clinical research may be offered alone, or combined with travel. The scholarship may also be held as an assistance in travelling to various surgical centres. A scholar will be expected to devote the greater part of his time for a year to the scholarship, but the holding of a part-time appointment does not preclude election to it, although a registrarship would hardly be regarded as compatible.

[4] Brazier, M. A. B.: Ibid., 1933, ii., 742; Oct. 20th, 1934, p. 869.

[5] Collip, J. B., and Anderson, E. M.: Ibid., 1934, i., 76.

ANNOTATIONS

POVERTY AND RHEUMATIC HEART DISEASE

THAT the incidence of acute rheumatism falls with peculiar severity upon the poorer classes has been clearly recognised in this country, although there has been some interesting divergence of opinion about whether it is the very poorest who suffer most. In a report to the British Medical Association Dr. Reginald Miller concluded [1] that in England rheumatic infection is essentially one of children of the artisan class living in damp rooms in an industrial town, attending an elementary school and suffering from tonsillar sepsis. Conditions of great poverty, destitution, underfeeding, overcrowding, excessive dirtiness do not, he said, seem to have an influence specifically towards rheumatic infection. Poverty is an all-important factor but it does not explain the whole question. Why are the poorest seemingly protected by their circumstances? What decides the distribution of the disease within the artisan class? It is not, Dr. Miller said, the financial condition of the affected family. In an inquiry made simultaneously in London and Glasgow under the auspices of the Committee for Child Life Investigation it was felt by the investigators [2] that in view of the heavy incidence of rheumatism upon children of the hospital class, as compared with that upon children of the wealthier classes, it might be expected that the incidence of rheumatism amongst the former would be in direct relation to the degree of poverty. That however was found not to be the case. When the hospital patients were divided into three classes according to the degree of poverty, the poorest of these three—the very poor and destitute—showed in comparison with the other classes no abnormally high incidence of rheumatism. This committee drew the conclusion that if poverty is a factor in the incidence of rheumatism it must be on account of some condition or conditions associated therewith which are not equally present in all degrees of poverty. In the preface to a report on acute rheumatism in children issued in the same year [3] by the Ministry of Health, Sir George Newman asks us to accept these observations with considerable reserve, although he admits that they coincide with previous observations by R. Hutchison (London), A. P. Thomson (Birmingham), V. M. Coates and R. E. Thomas (Bath). He adds that Mrs. Forest Smith's findings in out-patients at St. Thomas's Hospital suggest that the poorer the home the greater the risk. But to draw this deduction Sir George must have other material than is contained in the report itself. In a more recent study of rheumatic disease in children Dr. Maurice Campbell and Dr. E. C. Warner record [4] their impression that the poorest are the most commonly affected and that rheumatism is certainly as common in them as in children of the artisan class.

In a series of studies of American children Prof. John R. Paul, of Yale, and his associate workers are attempting to assess numerically the importance of the economic environment in their country. In a first study [5] Paul and Leddy devoted attention to a group of Yale University students and found that among men who had attended expensive boarding schools the incidence of rheumatic heart disease was less than half that among men from the high schools. In a further study,[6] by Paul, Harrison, Salinger, and De Forest, the focus has been transferred to the school-children of New Haven, Connecticut. Study of the data from the routine examinations of nearly six thousand public school-children performed by school physicians suggested that systolic murmurs, presumably of rheumatic origin, were roughly one and a half times as prevalent among children from the poorer districts than among those from the better districts of the city. Smaller groups of children were re-examined by Prof. Salinger, the reduction in the size of the sample being compensated for by the advantage of the employment of more definite and uniform diagnostic criteria on the entire group. Considerable differences in the economic grades were thus discovered. The highest incidence of rheumatic disease was found among 332 male pupils attending a "poor" urban public school (48·1 per 1000), and this rate was 50 per cent. in excess of that found among 258 pupils attending one of the "good" urban public schools and eight times as high as that among 168 pupils attending private urban schools from the best residential sections of the city. These results suggest to the authors that rheumatic heart disease has a low incidence among the relatively small group of children who come from the homes of greatest affluence, but that it has a high and far less differentiated incidence throughout the remaining 95 to 98 per cent. of the population. Their next step they conclude must be a more intimate study of some small communities in which they can relate poor and fair-living conditions to the prevalence of rheumatic fever.

[1] Brit. Med. Jour., 1926, ii., Suppl., p. 5.
[2] Medical Research Council, Special Report Series No. 114, 1927.
[3] Reports on Public Health and Medical Subjects, No. 44, 1927.
[4] THE LANCET, 1930, i., 60.
[5] Amer. Jour. Med. Sci., November, 1932, p. 587.
[6] Ibid., September, 1934, p. 301.

AUSCULTATORY PERCUSSION IN ASCITES

ABDOMINAL distension, shifting dullness, and a "fluid thrill"—by these signs were we taught in our youth to look for and recognise ascites. With growing experience came the knowledge that in a doubtful case, with only slight distension, the fluid thrill was rarely to be felt, and even a search for shifting dullness might leave uncertainty. In a recent paper from France we are offered a new physical sign, characteristic of ascites, and obtainable when the collection of fluid is too small to be demonstrated by other clinical means. That is the claim made for the "double bruit ascitique" of Lian and Odinet.[7] To elicit this sign one taps or flicks the patient's abdominal wall with the finger, in one iliac fossa, while auscultating in the other. The stethoscope is applied lightly; it may be monaural or binaural, but its chest-piece must be conical in shape and free from any sort of diaphragm. In the normal abdomen the blow of the finger is heard through the stethoscope as a single brief sound, its pitch varying with the state of the abdominal wall. When ascites is present the same sound is heard but it is followed at a distinct interval by a characteristic second sound, which is longer and louder than the first and which coincides in time with the fluid thrill when that is obtainable. Lian and Odinet attribute it, along with the fluid thrill, to the wave of displacement set up in the sea of ascitic fluid by the stroke of the finger. Incidentally the fluid thrill or transmitted thrill is known in French as "le flot ascitique," a name which indicates its mechanism and its nature

[7] Lian, C., and Odinet, J.: Presse méd., August 25th, 1934, p. 1337.

—for it is a single impact, not a vibration—much better than the English "thrill."

The value of this auscultatory sign will be learnt only by test, but its sponsors quote cases where it was present several days before a developing ascites was demonstrable by other means, or where its absence strengthened a diagnosis of ovarian cyst, afterwards confirmed. To disarm the sceptic they have made electrical records of the single sound of the normal abdomen and the ascitic double sound.[8] There remains the question whether other clinicians can elicit it in cases of ascites of small amount, otherwise difficult of recognition. If they can, the new sign, which appears plausible and involves much less acrobatics than circum-umbilical percussion in the knee-chest position, may well claim to be included among routine clinical methods.

OPTICIAN AND OCULIST

A LARGE proportion of insured patients who apply to approved societies for ophthalmic benefit are referred to prescribing opticians for treatment, and not to the oculists appointed by the National Ophthalmic Treatment Board. At the representative meeting of the B.M.A. held at Bournemouth in the summer, Mr. Bishop Harman argued that this is not in the best interests of the patients. These opticians are trained to do refractions and provide suitable glasses but they do not profess, nor are they qualified, to provide any further treatment. An analysis of over 10,000 cases seen by 47 of the Board's specialists shows [9] that only in 64 per cent. of the cases referred to them was the prescription of glasses the only treatment needed. In the remaining cases, eye conditions were found either not requiring glasses at all or requiring other treatment in addition to glasses. In a few cases (1 per cent.) there was no appreciable eye defect at all. Of course, the opticians are supposed to refer any case with which they are not competent to deal to an ophthalmic specialist, but from returns supplied by certain approved societies it was ascertained that the proportion of cases in which this was actually done was only about 3 per cent. It follows that more than a quarter of the patients referred to opticians do not receive the treatment to which they are entitled. It may be said that the modern optician receives a training quite sufficient to enable him to recognise serious conditions, but the fact remains that according to these figures many serious conditions must have been missed. The "other eye conditions" coming under the notice of the oculists who provided the statistics included roughly 7 per cent. of diseases of the conjunctiva, lids or sac, 8 of opacities of the lens, 5 of diseases of the uvea, and nearly 5 of constitutional or ocular affections presumably revealed by fundus conditions. Incipient glaucoma needs considerable skill to diagnose and, though it is rare, the possibility of its occurrence in those requiring glasses for failing sight is a reason for referring them in the first place to an oculist. Mr. Harman's paper affords strong evidence in favour of the conclusion of the departmental committee on the Optical Practitioners' Bill, 1927, which reported that they were satisfied "that the number of cases in which the patient may miss the opportunity of remedial treatment if the case is not handled by an oculist is by no means negligible."

Commenting on this report, the *Optician* questions [10] Mr. Harman's deduction from his statistics. The 10,085 cases analysed may not be typical; of the people who consult ophthalmic specialists it is inevitable that a large percentage should have diseased conditions in comparison with the people who ordinarily consult sight-testing opticians. The percentage of cases referred by properly skilled opticians is higher than that quoted by Mr. Harman, who, it is suggested, takes no account of the many cases referred by opticians to general medical practitioners. How far these considerations may reduce the significance of Mr. Harman's statistics it is not easy to say, but they can hardly bridge the gap between 3 and 36 per cent.

[8] Bull. et mém. Soc. méd. des hôp. de Paris, 1931, No. 25, p. 1402.
[9] Brit. Med. Jour., Oct. 6th, 1934, Suppl., p. 181.
[10] Optician, Oct. 12th, 1934, p. 145.

BRITISH POST-GRADUATE MEDICAL SCHOOL: AN IMPORTANT VACANCY

A NOTICE will be seen in our advertisement columns to the effect that the governing body of the British Post-Graduate Medical School requires a dean, the present dean, Dr. M. H. MacKeith, having retired for reasons of health. At a meeting of the governing body of the school last week it was decided to throw open the post to the medical profession by advertisement, a policy which we think will appeal to our readers, for the claims of as wide a range of candidates as possible can then be scrutinised. It is vexatious that at the last stage of development the services of an important executive officer should be lost to the school, but this makes it all the more welcome that the professorial staff and the readerships have already been fully appointed—and we may say that the school has been particularly fortunate in the selected personnel. The new buildings will be opened at the end of this year, and during the first three months of 1935 the staff will get into working order by taking over the wards and out-patient and various departments as from Jan. 1st next. Thus the school should be open for teaching purposes about April 1st, 1935; the school council is already holding regular meetings at which the details with regard to the courses of instruction are being carefully worked out.

THE INVESTIGATION OF PAIN

THE special senses are the avenue for most of our contacts with the real world, and full study of our manner of using them must be as "dynamic" and profitable a branch of psychology as any analytic or other restricted method; possibly in the event more so. Pain has not received as much attention as hearing, vision, and touch because of the difficulties of experiment. It may be also that pain has had, for the purposes of psychopathology, less relevance than these others to hallucinations and other phenomena of mental illness. The full consideration of the integrated response to pain stimuli is, however, of importance to psychology and psychiatry. Those with mental disorders do not cease to respond to pain. Painful stimuli may have influence on their symptoms; but this has little to do with what is sometimes called "mental pain." Here it is necessary to distinguish between false verbal similarities. Neither physiology nor personal knowledge justifies such a linking. To speak of a "painful experience" as though the terms were being strictly used, and the known phenomena of pain were in question, is to darken counsel, as it has so often been darkened in psychiatry, through misuse of words. It is not by such analogies or inapt transfers of knowledge that total psychosomatic phenomena can come to be understood. Premature interpretation defeats its end whether it proceeds from hasty materialism, weakness for piled hypotheses, or ignorance of what is meant by

metaphor. In a recent detailed study [1] of the clinical features of depression, Dr. Aubrey Lewis has shown afresh how essential a preliminary is the full description of the phenomena, if from such common defects as those mentioned there are not to arise false theory and false practice. There is, however, another and sounder way (which may, briefly, be called the phenomenological) of aiming at the integration of physiological and psychological data than that once applied to aphasia and still used for retardation and inhibition.

There can be few who are not dissatisfied with the seeming changeableness and uncertainty of a large part of the data to which psychiatrists apply their verbal symbols and their methods of study. There can be no fixity of material investigated, no adequate testing of conclusions, until functions have been defined in constant terms. These terms must be psycho-biological. They can only be applied after intensive study of the somatic foundations—genetic, constitutional, and physiological—and their associations with mental phenomena.

PANEL DENTISTRY

LAST year under the National Health Insurance Acts approved societies expended about £2,000,000 on dental benefit for their members, who qualified for this treatment by spending a like amount out of their own pockets. Anyone on the Dentists Register, whether possessing a dental qualification or not, is eligible to treat insured persons and it is not surprising that complaints should arise, whether against dentists by insured persons or approved societies acting on their behalf, or by dentists against approved societies. The Dental Benefit Council, which consists of dentists, representatives of approved societies, and an official of the Ministry of Health, provides machinery for investigating such complaints and can institute disciplinary action against either party, even to the extent of debarring a dentist from undertaking panel work. The machinery closely resembles that of medical benefit, and all parties have the right of appearance. Many of the so-called complaints against dentists are simply questions of disputed interpretation referred by societies to the Council without any allegation of incompetence on the part of the dentists concerned. Cases of deliberate breach of the regulations or of actual bad workmanship are, in relation to the vast amount of panel dentistry, comparatively few. Some cases of "contracting out" still occur. In the past this usually took the form of the dentist undertaking to supply work of better quality for an additional fee to be paid by the patient. It is a pathetic result of present-day industrial depression that contracting out now takes the form of the dentist arranging to forgo the whole or part of the fee payable by the patient without the knowledge of the approved society. Denture cases provide a large proportion of complaints and there has been an increased failure to provide satisfaction in this respect. It is highly probable that some of these are due to failure on the part of the patient to give that co-operation which is essential in dental prosthesis. This is difficult to prove and the dentist generally must bear the brunt of the failure even though the patient is at fault. It is interesting to note in the Council's report [2] that cases demonstrating a lack of skill in conservative work are becoming more common. In the past the greater part of panel dentistry consisted in the extraction of teeth and the provision of dentures, but the cumulative effect of dental benefit on the insured population over many years is now being felt. Arrears of extractions, and consequent prosthetic treatment, tend to decrease; there is greater demand for conservative dentistry and a greater appreciation of its value. But it is here that deficiencies on the part of 1921 dentists show themselves. Some of them have little skill in this branch of dentistry and practise it rarely; complaints arising on this ground are hardly surprising and reflect only on a small section of the profession, which as time goes on will steadily decrease, for all dental entrants must have had a hospital training and thus be fully versed in the conservation of teeth. From the way in which this report has been handled in a section of the press it might be supposed that the whole dental profession was incompetent and engaged in wholesale exploitation of the insured population. So far is this from being the case that the Council, which contains a large approved society element not likely to be unduly tender towards delinquency, says "there is every indication that the standard of the service has not only been maintained during 1933, but has definitely improved both as regards the adequacy with which the dental needs of the insured population have been diagnosed and the satisfactory manner in which the authorised treatment has been carried out." The report itself is a sufficient refutation of such headlines as "Growing evils of panel dentistry."

[1] Jour. Ment. Sci., 1934, lxxx., 1 and 277; see THE LANCET, 1934, i., 1239.
[2] Appendix xxxiii., Fifteenth Annual Report of the Ministry of Health, p. 365.

TYPHUS FEVER: ITS PREVALENCE

THE September issue of the *Bulletin* of the International Office of Public Health contains what amounts to a review of typhus fever in the world at present. According to Dr. E. H. Cluver, who contributes the report on typhus in *South Africa*, the disease has for long been endemic in the native areas in the eastern part of Cape Colony. The period 1919–1923 may be regarded as epidemic, when the average number of notifications exceeded 8000 annually. In 1924 they fell to 2000 and did not reach this figure again until 1933, when they numbered 2125, the rise being due partly to the loss of immunity acquired during the epidemic, and partly to aggravation of the economic situation. Owing to their deplorable lack of hygiene, heavy infestation with lice and malnutrition, the disease was more frequent and fatal among the natives than among the Europeans, as is shown by the fact that during the period 1923–33 the European cases amounted to only 544 with 24 deaths (4·4 per cent.) as compared with 22,204 cases with 3005 deaths (13·5 per cent.) among the natives. Dr. Lasret, the delegate for *Algeria*, reports that in 1933 847 cases were notified in that country as compared with 395 in 1932. The increased incidence, however, only occurred in the Constantine department, where there were 769 cases in 1933 as compared with 276 in 1932. In all the other departments the incidence remained the same or was on the decline. In *Chili*, according to Dr. Leonardo Guzman, director-general of the Ministry of the Interior, an epidemic of typhus had been in existence since 1917, reaching its height in 1919 with 14,517 cases and 2804 deaths. During the next five years there was a decline, but recrudescences subsequently occurred, and during the period July, 1933, when Dr. Guzman assumed his present position, until Jan. 1st, 1934, there were 15,194 cases with 3258 deaths (21·4 per cent.) throughout the country. Eighteen departments were heavily infected, while sporadic cases occurred in the rest. In his survey

of the disease in the *U.S.A.*, Dr. Hugh S. Cumming, surgeon-general of the Public Health Service, stated that during the last two years endemic typhus had shown a tendency to spread to the country districts, this invasion being preceded or accompanied by an increase in the rural population of rats from which the disease is transmitted to man by the same flea which transmits plague. In his report on typhus in *Rumania*, Prof. Danielopolu remarked that the case fatality (9 per cent.) at the present time was considerably less than it had been during the war, when it had exceeded 20 per cent. Apart from the years 1916–18, for which no statistics were available, the highest number of cases (56,042) was reached in 1919. The number subsequently fell until a minimum (1377 cases) was reached in 1931 followed by recrudescences in 1932 (1787 cases) and 1933 (1805 cases). As regards *Soviet Russia*, Prof. Syssine of Moscow reported that systematic studies of the ætiology, epidemiology, diagnosis and specific treatment had recently been carried out in the numerous institutes of epidemiology and microbiology throughout the country. The most important conclusions reached had been first the long duration of the infectivity of lice amounting to two months after the termination of an outbreak, and secondly the biological differences between the virus of endemic typhus and that of the epidemic form. Specific vaccine prophylaxis and serum treatment in Soviet Russia as in Rumania appear to be still in the experimental stage.

SENSATIONAL CANCER REPORTS

THE October number of the *Monatschrift für Krebsforschung* contains a report on the scientific congress held in the first week of September at Frankfort-on-Maine under the chairmanship of Prof. W. Kolle. All the members of the congress had been personally invited, and about fifty workers from abroad accepted the invitation. At one of the meetings the claim of Dr. W. v. Brehmer to have discovered the causative organism of cancer[1] was discussed and criticised. As a result Prof. Kolle issued a statement to the press in which he expressed his doubt concerning this discovery, and deplored the manner in which it had been broadcast. An even more strongly worded protest was issued to the press by the German Government and by the president of the Reichs-Gesundheitsamt. These declarations, reproduced in the same number of the *Monatschrift*, warn the public against accepting Brehmer's claims to have discovered new methods of diagnosis and treatment. No sooner had this sensation been disposed of, than a new one made its appearance. Dr. Klein, who is working in the biochemical laboratory of the I. G. Farbenfabriken at Ludwigshafen, read a paper in which he claimed to have succeeded in isolating from mammalian tumour an "agent" by which he could transmit cancer to other animals without the intervention of living cells. He assumes the existence in the animal organism of substances capable of destroying cancer cells, basing this view on work of Freund and Kaminer published 25 years ago which has not hitherto been accepted as valid. Dr. Klein further claims to have elaborated a method of diagnosis based on the presence in normal blood of these cancer-cell destroying substances, which makes it possible to distinguish between a healthy person on the one hand and a person who is either suffering from cancer or liable to develop cancer on the other. In order to prove that a person, who is free from cancer, but who has responded to a test indicating liability, has later developed cancer, a history would be required of at least 20 years. The test had been applied in a number of hospitals, and although the work has apparently been carried out only over a short period, it is stated to have given 95 per cent. of correct results. Lastly, the claim is made that by concentrating these protective substances in certain tissues a means has been found for the treatment of cancer. Dr. Klein's claims amount to nothing less than a complete solution of the cancer problem, and their detailed publication will be awaited with expectation, tempered by the memory of the discovery only last year of a cancer remedy based on Fichera's work which seems to have been abandoned.

[1] See THE LANCET, Sept. 15th, 1934, p. 609.

THE NEW WESTMINSTER HOSPITAL AT BRITISH INDUSTRIES HOUSE

THE equipment of the new Westminster Hospital, to be built at St. John's-gardens, Millbank, will be a very big undertaking. With a view to affording assistance to hospitals in general, and to the Westminster Hospital in particular, the directors of British Industries House at Marble Arch have put forward a suggestion, which has been accepted and is now taking shape. The scheme is to erect on the ground floor, adjacent to the model hospital section, suites of rooms in accordance with the specifications submitted to the building committee of the Westminster Hospital. The first suite of six rooms is now nearing completion and will soon be available for the reception of equipment by manufacturers desirous of securing hospital business. This suite comprises a matron's and nurse's rooms, complete with bathrooms, lavatories, shampoo rooms, and so forth. When these rooms have served their purpose and the selection of suitable articles has been made by the Westminster Hospital committee, the suite will be demolished and replaced with other rooms, all built to scale. Since at least two years must elapse before the new hospital is completed, this new section will afford continual interest to those entrusted with hospital construction or maintenance elsewhere, and should be the means of saving time and money. The centre is open daily to all interested in hospital management on presentation of a professional card.

DR. CHRISTINE MURRELL

LAST May, at a meeting of the Medical Women's Federation in Sheffield, the desire was expressed that the services of Christine Murrell to medical women should be recognised in permanent form. Dr. Murrell was an ex-president and honorary treasurer of the Federation, but the meeting considered that her claims to be remembered were based not on her connexion with the Federation but on her well-known services to the medical profession, recognised just before her death by election on the General Medical Council. No money that the Federation may command can be devoted to other than the work of the body, so that an appeal for some permanent recognition of Dr. Murrell must be made, not only to the members of the Federation outside their subscriptions and to their friends, but to all the profession if any substantial sum is to be raised. Dr. Violet Kelynack, medical secretary of the Federation, states that if all the members of that body contributed 10*s.* 6*d.* each, £750 would be forthcoming, and commends the movement to the sympathetic interest of the whole profession. The suggestion of the Federation is that a memorial post-graduate fellowship to benefit young women in

practice should be instituted, an object that would have specially appealed to Christine Murrell; and already a small sum has been raised. Donations will be gratefully acknowledged by Dr. Violet Kelynack, 9, Clifford-street, London, W. We hope satisfactory responses may be obtained to the appeal. In the current *News-Letter*, the magazine of the Federation, it is stated that the administration of the fund, and indeed the exact method of its employment, will be settled in accordance with the amount of support received.

A GASTROTROPIC HORMONE?

THE experimental production of lesions precisely localised in the fundus of the stomach by injection of extracts of the posterior lobe of the pituitary gland is described by Prof. Dodds and his collaborators on another page. The observation has been repeated 40 times, using an extract prepared by the acetone-picric acid process, and has also been made on animals to which the standard B.P. extract had been administered in massive doses subcutaneously and by mouth. Extracts of certain other tissues of the body were found to be inert in this respect, as was also the oxytocic factor of the posterior lobe when separated from the pressor factor. The fraction containing pressor factor produced the typical lesion, and the question arises whether the phenomenon is due to a hitherto undiscovered property of this hormone or (as seems more likely) to some new substance which is gastrotoxic in large doses. It is noteworthy that the inflammatory lesion is confined to the acid-secreting area of the stomach, the œsophagus, duodenum, and the distal third of the stomach remaining normal in appearance. Whether the substance has a direct toxic action on the acid-secreting cells, or whether it stimulates secretion of hydrochloric acid to a damaging extent, is not yet clear. The latter mechanism would be analagous to that by which prolan, produced by the anterior lobe of the pituitary, passes in the blood-stream to the ovary and testis, and there initiates changes resulting in the production of internal secretions. It is, however, premature to speculate on these possibilities. The group of workers at the Middlesex are evidently hot on the scent and may be relied on to negotiate the most formidable obstacles in forcing their quarry into the open.

CHOLERA IN INDIA

CHOLERA has come to the front again in India. The last great epidemic, in 1927–28, was followed by a lull; outbreaks became fewer and the years 1931 and 1932 had remarkably few deaths. During the early part of 1933 Bengal had more than its share of cholera with 6160 deaths in the first and 6516 deaths in the second quarter. Bombay and Hyderabad were affected in the second quarter of 1933, the usual season for cholera in western and northern India. When the epidemic was becoming quiescent in Bengal during the third quarter a few cases were occurring in Assam. The infection travelled eastwards from the Mymensingh district of Bengal through Sylhet to Cachar. After smouldering for a short time in Cachar, the epidemic flared up and returned downstream from east to west, causing over 2700 deaths in the districts of Cachar and Sylhet. The Habigung subdivision of Sylhet, where, as we noted in a leading article on July 7th, bacteriophage had been distributed, was the only subdivision to escape. Cholera now reinvaded Bengal through Mymensingh and Tippera, and cases increased till during the first week of April there were in Bengal 1075 deaths. Behar and Orissa now lighted up and cases began to appear in the Central Provinces, the United Provinces, Bombay, the Punjab, and in the north-east of Madras in the district adjoining Bengal. The Central Provinces had over 13,500 deaths during June, July, and August. Bombay had 3441 in three weeks during August. In Berampore in the north-east of Madras the Calcutta *Statesman* correspondent wrote "the roads are almost blocked by processions of bullock carts conveying the bodies of victims to the funeral pyres."

This spread of cholera has occurred after an interval of six years—the normal period for such epidemics in western and northern India. The periodicity is well known, but steps to break it, if any, have not apparently been successful, except the effort in Assam. Such an opportunity to gauge the value of preventive measures against cholera, if the normal periodicity continues, may not come again till 1939–40; but we may hear more of what has been learned in this epidemic.

ON Thursday, Nov. 8th, a soirée will be held at the Royal Society of Medicine when Prof. Arturo Castiglioni will give an address in English entitled "The Ancient University of Padua and its English Scholars." On the previous afternoon, Wednesday, Nov. 7th, at 5 P.M., Prof. Castiglioni will read a paper before the Section of History, also in English, entitled "Morgagni and the School of Anatomy in Padua." Prof. Castiglioni occupies a position which will make it right that he should obtain good audiences, and anatomists and surgeons are as likely to be interested in his deliveries as students of medical history. The meeting at the Section of History is open to Fellows and visitors without tickets.

Dr. Edward A. Gregg is standing in opposition to Mr. Bishop Harman for the seat on the General Medical Council, as a direct representative for England and Wales, which becomes vacant on Nov. 26th. Dr. Gregg sets out his claims as follows. He has been for 25 years engaged in panel practice, has been actively associated with medical organisation during the whole of his professional life, and has been concerned largely in municipal affairs. His policy of reform includes an increase in direct representation, modifications in medical education, and alterations in the disciplinary procedure of the council. With regard to these latter proposals he advocates that the views of the whole profession should be taken. Dr. Gregg has been Mayor of St. Pancras and chairman of most important committees of that borough.

UNDER the presidency of Prof. W. Langdon Brown the International Congress on Life Assurance Medicine will be held in London from July 23rd to 27th, 1935. The chief subjects of discussion will be methods of estimating risks, the prognosis of hypertension, the acceptance of glycosurics, gastro-intestinal ulceration and life assurance, and the rôle of health service in life assurance. The conference is the first of its kind since 1903, and the first to take place in this country. We are informed that for practitioners resident in Great Britain and Ireland membership is restricted to members of the Assurance Medical Society, and to "such other practitioners as are interested in life assurance and whose application for membership is approved by the congress committee." The chairman of this committee is Dr. Theodore Thompson, and the hon. secretary Dr. Otto May, who should be addressed at 142, Holborn Bars, London, E.C.1.

PROGNOSIS

A Series of Signed Articles contributed by invitation

XXIV.—PROGNOSIS OF BRONCHIECTASIS IN ADOLESCENTS AND ADULTS

THE advance in our knowledge of bronchiectasis which has come about largely through the introduction of lipiodol as an opaque medium for bronchography, has increased, rather than otherwise, the difficulties in making a prognosis. A knowledge of the probable future of those afflicted with this potentially hideous malady is more essential than ever, because of the rapid progress in the surgical treatment of this condition. We are frequently confronted with questions such as: Do the symptoms warrant an extensive and even risky operation in a case where the symptoms may be slight? Does the prognosis warrant it? The prognosis, therefore, becomes not merely shrewd prophecy, but a matter upon which most important and urgent decisions may depend. By the use of lipiodol we can almost certainly prove or disprove the existence of bronchiectasis; we can estimate its extent, type, and distribution; we can demonstrate unequivocally the presence of what is, clinically, entirely latent bronchiectasis, though anatomically it may be gross in so far as the extent and size of the dilatations are concerned.

Since it is now possible to determine by radiography and bronchoscopy whether the bronchiectasis is obstructive or non-obstructive, and, if the latter, whether latent hæmorrhagic or purulent, prognosis can best be considered under these headings.

OBSTRUCTIVE BRONCHIECTASIS

The obstruction may be within or without the bronchi. If from within, it may be caused by a foreign body, an innocent tumour, a malignant tumour, or stricture. In my experience, if the foreign body has remained long enough to cause bronchiectasis its removal will not cure the dilatation, or necessarily the symptoms, though they may be greatly improved. The same applies to innocent tumours. The prognosis of stricture is poor, even with intubation.

Pressure from without may be caused by glands, malignant or otherwise, or by an aneurysm. In any case, the prognosis is extremely grave, for as a rule the primary cause is incurable. Relief may be given if the pressure is relieved by X ray therapy in malignant disease, or by X ray therapy combined with arsenic in lymphadenoma.

NON-OBSTRUCTIVE BRONCHIECTASIS

The condition of latent bronchiectasis has only comparatively recently been clearly recognised and understood. Its presence may be revealed only during an attack of influenza or some other infection by the expectoration of great quantities of purulent matter. One attack alone may put the condition into the category of purulent bronchiectasis. On the other hand, the trouble may subside completely and the patient may become perfectly well again. Only by observation over a period, perhaps of years, can the chances of this be determined. With careful treatment, climatic and otherwise, these patients may remain in health and free from symptoms for very many years; or they may get recurrent attacks of fever and spitting of pus with almost every cold or infection that comes their way. The condition is bound to restrict their activities, and possibly force a change of residence to an ideal climate if this can be managed. What this ideal climate is may not be easy to decide, and still less easy to follow, but the high alps, parts of Africa, the South Pacific slopes, would fulfil many of the criteria.

HÆMORRHAGIC BRONCHIECTASIS

This condition may cause profuse hæmorrhages from childhood up to the age of 60 and possibly longer. The condition is, therefore, compatible with life, but the recurrent hæmorrhages are terrifying to the patient, and of course, if frequent, tend greatly to undermine his health. It may develop into the third category of purulent bronchiectasis. Lipiodol and bronchoscopic investigation is very important, because the condition may be closely simulated by lung stone or papillomatous growth, which when removed may leave no legacy of symptoms.

PURULENT BRONCHIECTASIS

Purulent bronchiectasis may present every gradation from the mere morning spitting of a little purulent phlegm to a condition so horrible as to make the patient's life intolerable to him and to everyone around him. It does not follow that the one will lead to the other, although there is always this possibility. In some cases there is a rapid downward progress, in others a slight or even fairly well-established state may remain stationary for years. In the former group I recall a medical student who after a post-operative pneumonia at once developed bronchiectasis. Within a year he had died of a cerebral abscess. Again, a professor at one of the universities, after a septic throat, developed in rapid succession broncho-pneumonia, suppurative pneumonitis, and bronchiectasis with gross clubbing of the fingers and offensive expectoration, and he died within two years with fever and general toxæmia.

The moment the sputum becomes offensive the prognosis is bad. The amount of pus also appears to be a factor. Temperature, tachycardia (a toxæmic manifestation), loss of weight, are all ill-omens. There is always a possibility of cerebral abscess, though this in my experience is not very common. But the danger of broncho-pneumonia is ever present, and also a tendency to progressive myocardial degeneration.

This, then, on broad and rather vague lines, gives a picture of the possibilities in bronchiectasis. I have several patients whom I have been watching for years, with physical signs in the lungs, with a certain amount of purulent expectoration in the morning, in whom lipiodol has shown considerable bronchiectasis to exist, but who have carried on their work without interruption.

Influence of Treatment on Prognosis

This is a question which cannot be answered until we have had longer experience of the results of modern methods. There is no doubt that the older forms of medical treatment—i.e., posture, creosote, and general hygiene—prolong the patient's life. Artificial pneumothorax, if successful in a suitable case, will completely stop all symptoms, but there are many difficulties in maintaining a life-long pneumothorax. Nevertheless, I have several cases, treated by pneumothorax or oleothorax, where symptoms, previously severe, have been kept completely in check for several years. A thoracoplasty may likewise cause the disappearance of all symptoms. The only

radical treatment, however, is lobectomy. This, *in suitable cases*, should be curative. The technique of this operation is advancing with rapid strides, and already many successful cases have been reported, but we have still to learn the ultimate fate of patients so treated. The suitable case is ideally a strictly localised unilobar bronchiectasis, in which the dilatations do not exist too close to the root of the lung. Nevertheless, it is not impossible to remove more than one lobe, and I am convinced that bilateral, unilobar bronchiectasis will before long yield to the skill of the thoracic surgeon. Mr. Tudor Edwards has kindly supplied me with the following figures. Of 54 cases of lobectomy performed by him, 33 are healed and symptomless while 8 have died. Mr. J. E. H. Roberts and Mr. H. P. Nelson have also kindly sent me their results of 32 lobectomies; 14 are well and completely relieved of their symptoms, 8 are improved, 6 died. The other patients in both series were not improved largely owing to bronchiectasis in some other part of the lung.

F. G. CHANDLER, M.D., F.R.C.P.,
Physician, City of London Hospital for Diseases of the Chest.

POST-GRADUATE LECTURES

Of the post-graduate courses recently held for old students of London teaching hospitals one was at University College Hospital, and we publish this week summaries of lectures delivered there by Dr. Charles Bolton and Dr. Blake Pritchard. The address by Mr. Leslie Williams was given in the course held at St. Mary's.

HÆMATEMESIS

(DR. CHARLES BOLTON)

HÆMATEMESIS may occur at any time, in any place, and to any amount. The diagnosis of hæmorrhage is commonly obvious from the blanched face and almost pulseless condition of the patient, together with the evidence of the vomited blood. On the other hand, he may walk into your consulting-room complaining only of shortness of breath and faintness; the pallor of his face however suggests an examination of his fæces as soon as possible for melæna. Again, you may be shown some stained material the patient has vomited, which can only be recognised as blood by tests; these can be made quite easily by any medical man. If acid in reaction the patient has without doubt vomited the material. If alkaline and consisting chiefly of saliva and mucus, with red blood intermingled, it has most likely come from the mouth or pharynx, and may be due to self-inflicted injury. It is well to remember that regurgitation from the œsophagus is commonly described as vomiting. Coughing and vomiting may occur together, but hæmoptysis initially is red and frothy, and is commonly followed by rusty sputum and melæna does not result. Again, epistaxis may lead to the swallowing of blood which may be vomited. This is a not uncommon cause of hæmatemesis in children.

Having decided as to the gastric origin of the blood, a few very general rules, to which there are numerous exceptions, as regards the character of the blood may aid the diagnosis of the cause of the bleeding. Coffee-grounds vomit indicates that the bleeding is moderate in degree and has been poured out slowly, so that time has been allowed for the formation of acid hæmatin by the HCl. Such bleeding occurs from the surface of an ulcer or cancer, or in mechanical congestion as hepatic cirrhosis. In acute toxic gastritis the blood is commonly red, small in amount, and mixed with mucus. Dark-coloured clots point to a more profuse bleeding and are significant of chronic ulcer, cancer, and cirrhosis. Large amounts of bright red blood typically result from an acute ulcer, an œsophageal vein in cirrhosis of the liver, splenic anæmia, less commonly chronic ulcer, and rarely cancer. In toxic vomiting, and in fevers and purpuric conditions, the blood is of the coffee-grounds variety, but occasionally more profuse, especially in purpura.

Three classes of cases occur as regards the relation of the blood to the act of vomiting. The hæmorrhage may be the immediate cause of the vomiting and without warning or preceding gastric symptoms blood is suddenly vomited; as typically seen, for example, in acute gastric ulcer, but rarely in chronic ulcer. In cirrhosis of the liver sometimes and in the purpuras the same event may occur. Secondly, hæmatemesis occurs during the course of a disease of which vomiting is a symptom—notably in chronic gastric ulcer, cancer, cases of cirrhosis of the liver in which gastric symptoms are present, and acute gastritis. Finally the hæmorrhage occurs at the end of an attack of prolonged vomiting, having been caused by it, and is small in amount, as in sea-sickness. It is well to remember that a gastric ulcer patient may die from profuse hæmorrhage without any blood having been vomited at all.

The presence of pain and other gastric symptoms are next ascertained and definitely point to organic disease of the stomach or duodenum; but the absence of pain is characteristic of acute gastric ulcer. The physical examination of the patient, when opportunity presents itself, is particularly directed towards the position of pain, tenderness, or rigidity, and the presence of a tumour or dilated stomach; also enlargement of the liver and spleen as indicating portal obstruction or splenic anæmia. Finally wasting, jaundice, and the presence or absence of general disease associated with hæmorrhage are ascertained. It is important to inquire into the nature of any previous attacks of hæmatemesis and the intervals between them. Bleeding at intervals without any gastric symptoms between is characteristic of acute ulcer, but symptoms are nearly always present in chronic ulcer.

Treatment.—I shall discuss the treatment of hæmorrhage in peptic ulcer as being the commonest and most important example of hæmatemesis. In this disease hæmorrhage may occur at the formation of the initial lesion, or at any stage during the evolution or cicatrisation of the ulcer. It is therefore of importance to form as accurate an estimate as possible of the condition of the ulcer by a consideration of the facts of the case as I have described above, a very difficult task. In the vast majority of cases the bleeding is arterial, but the artery is unable to retract and so assist in the arrest of the hæmorrhage owing to the nature of the rupture and the peculiar conditions in which the vessel is placed. The arrest of bleeding is therefore entirely dependent upon the formation of a firm clot, which is always formed, but which usually becomes partially or completely detached leading to recurrences of bleeding, sometimes as profuse but commonly smaller than the

initial hæmorrhage. The patient practically never dies from the initial hæmorrhage, but from these recurrences; and the necessary repeated dilution of the blood leads to the formation of less firm clots. The factors tending to dislodge the clot are the movement of the stomach, stretching of its wall, digestion of the clot and the contact of food with it, and vasodilatation of its arteries; in other words, the processes of digestion. These inimical conditions are avoided by withholding food and keeping the stomach in the resting phase till the clot is sufficiently consolidated to withstand them. It is quite true that the patient may recover whilst eating his normal diet; and in the celebrated Lenhartz treatment, in which feeding by the mouth was commenced at once in spite of bleeding, it was claimed that the mortality was no greater than that of the starvation method. The conditions, however, are so complicated and various that statistical results are of little value.

The patient should be given a hypodermic injection of morphia and atropine at once and left alone for a few hours. He is then to be kept absolutely at rest in the supine position on a firm bed with light clothing; the room should be cool and well ventilated and the blinds partially drawn. It may be advisable to raise the foot of the bed; and a cradle relieves the pressure of the bed-clothes. The mouth is to be systematically cleansed with some antiseptic solution. Small amounts of water are given occasionally by mouth and do something to relieve thirst. In the great majority of cases both pain and vomiting are absent. Half a pint of glucose-saline solution is administered every four hours per rectum, but if this is not well retained it may be given six-hourly, and also subcutaneously if thirst is acute. The drip method may be employed if preferred.

This treatment is continued till the bleeding has been arrested for two days. Bleeding attacks are recognised by faintness, rapidity of the pulse, and the appearance of fresh melæna in the daily wash-out. Melæna is the last sign of bleeding, but black fæcal masses may be washed out even two or three weeks after the bleeding has stopped. At the commencement of mouth feeding it is best to begin with albumin-water or whey in small quantities, gradually increased to 5 oz. two-hourly. Equal parts of whey and citrated milk are then substituted as a stage towards 5 oz. of citrated milk every two hours, and finally 7 oz. three-hourly. This latter stage is reached in about ten days after the bleeding has stopped and the diet for the treatment of the ulcer is now proceeded with. The rectal salines are reduced in number and finally omitted when the stage of milk diet is reached. Enemata every other day are now employed instead of wash-outs. Vomiting is commonly not repeated unless the stomach is irritable or fairly large recurrences of bleeding occur. The stomach usually empties normally, but sometimes fails to do so.

Lavage.—It is over twenty years since washing out of the stomach with iced water was first suggested in such a condition. The blood is sucked out with an evacuator and the water introduced in small quantities and removed. I do not recommend this procedure, for in order to empty the stomach the tube must be introduced into the lowest point of the organ and not only may it come into contact with the ulcer, but the mucous membrane is subjected to suction and the clot projecting into the stomach very likely to be dislodged.

Hypersecretion if present or gastric juice excited by the blood is best controlled by atropine gr. 1/100–1/50 or tinct. belladonn. ℥ 20–30 by rectum. This drug not only arrests secretion but also dilates the pylorus. Small amounts of lime water by mouth are also useful.

Blood transfusion.—Transfusion has been much used within recent years and undoubtedly is a valuable method, but requires caution in its use. It is not to be used after the initial hæmorrhage, but after one or more recurrences as decided by the physician. Too much stress must not be laid upon the fear of recurrence of hæmorrhage owing to raised blood pressure. I believe that there is little danger in giving two transfusions of 250 c.cm. each with an interval of two hours between. It is impossible to make definite statements about transfusion or lay down rules for its employment, because it is difficult to say accurately in which cases it has saved life. One sees now and then a case in an almost desperate state recover without transfusion, and it may fail to save the patient in an apparently less serious condition.

Many statements have been made regarding this treatment, but it must be acknowledged that there is no definite pathognomonic sign for its use. I believe the correct attitude to adopt is to review the case in all its aspects and come to a decision from the general clinical picture. We can thus form an idea as to the severity of the case, and of the stress which has been necessary to reduce the patient to his present condition, and how he had resisted it. In the examination of the patient the two most important observations to rely upon are the condition of the pulse as regards rate and other characters, and, secondly, the percentage of hæmoglobin. It must be remembered that a patient with a hæmoglobin reading of 30–40 may appear to be quite comfortable, although such a low reading is dangerous; and also that the rate of the pulse is accelerated by fever, which is commonly present. Estimations of blood pressure are of uncertain value, for we do not know the normal reading of the patient. Patients may recover with quite a low blood pressure, and after transfusion the blood pressure may fall and the patient still recover. Apart from the severity of the case the persistence of bleeding is another indication for transfusion.

Hæmostatics.—Hæmostatic substances which precipitate the blood plasma, as perchloride of iron, are of little use, because the clot formed by them is loose. There is no positive evidence that hæmoplastin is of any value.

Operation, if decided upon, should be accompanied by transfusion. Acute ulcers, if the history points to them, are better left alone. If operated on, the stomach must be opened and the surgeon take his chance of finding the bleeding point, and even then there is no clear certainty of recovery. A chronic ulcer can be easily found, and the indications for directly dealing with it are recurring and persistent hæmorrhage or pyloric stenosis.

EFFECT OF INJURIES ON THE DEVELOPMENT OF DISEASES OF THE NERVOUS SYSTEM

(DR. BLAKE PRITCHARD)

IT is a matter of common experience that from patients suffering from such diseases as disseminated sclerosis, progressive muscular atrophy, and paralysis agitans, an account of some accident or injury, shortly preceding the onset of symptoms, is very often obtained. A reason for this is that these patients are dissatisfied and puzzled to find that, although we will

admit no reasonable doubt as to the nature of their illness, we nevertheless confess our complete ignorance as to its cause. Another reason is that minor injuries are so common to all of us and so frequently repeated that most patients can usually remember some such injury which the later development of symptoms makes significant.

The general tendency is to discount the effects of any injury as being unlikely to make any contribution to the onset or to the progress of these and similar diseases, and to regard the injury itself as being probably due to some otherwise unnoticed clumsiness or weakness—symptoms of the disease already present. I want therefore to draw your attention to a few cases in which a recent injury would appear either to have precipitated or to have increased the severity of one of these generalised diseases, and also to point out the lines along which an explanation of these effects can possibly be found.

These cases differ in no essential way from those which have been already described by Dr. Wilfred Harris in his Savill oration for 1933. (The essential details of six such cases, two of disseminated sclerosis, one of progressive muscular atrophy, one of paralysis agitans, and two of hepato-lenticular degeneration were then given. In each of them the clinical picture was unusual, in respect either of abnormal rapidity of development or of abnormally severe disability in that limb which had previously been injured.) If we are not satisfied with the view that in not all of such cases is the relation between the injury and the unusual features of the subsequent disease a chance coincidence, we are naturally led to look for other similar observations which may throw some light upon the way in which injuries to other parts of the body may be expected to influence the resistance of the central nervous system to the causative agencies of these diseases.

In respect of the peripheral nerves it can be demonstrated without doubt that peripheral neurons in which conduction is already slightly impaired, as a result of lead and alcohol poisoning, are less resistant to mechanical injury, in that continued pressure over a nerve trunk containing such neurons leads to paralysis and to sensory loss in their area of distribution much earlier than it does in otherwise healthy persons. We have a priori no reason for assuming that this would be so, since we have none for assuming that the effects of mechanical pressure and of such forms of poisoning would necessarily summate in impairing conduction through the peripheral nerve-fibre. That they do summate in this way can easily be demonstrated.

If damage or destruction of the tissues of a limb is going to produce any change in the cells of the central nervous system, it is in that part of the spinal cord to and from which the nerves of the limb run that we can most reasonably expect to find such changes. They might conceivably result from transmission to the spinal cord of some products of inflammation or of tissue breakdown. Alternatively, since destruction of peripheral neurons is known to give rise to histologically demonstrable changes in their cells of origin—in this case the spinal root ganglia or the anterior horn cells of the cord—it is possible that the changes underlying these histological appearances may entail a lowering of the resistance of these cells to other pathological influences that are already at work.

Whatever may be the mechanism by means of which such a change takes place, we must ask whether there is any evidence that damage of one limb can and does lower the resistance of immediately related segments of the spinal cord to attack by other disease processes. A clear answer to this question is, I believe, given by certain cases of acute anterior poliomyelitis.

In the first, fracture at the lower end of the radius of the right arm was followed two weeks later by complete paralysis of all the muscles in the forearm and slight weakness only of the triceps and deltoid muscles on both sides. Later all symptoms disappeared except for complete and permanent paralysis of the muscles of the forearm.

In the second case, severe bruising of the left thigh with pain but no weakness, caused by falling astride a fence, was followed within 48 hours by complete paralysis of the left leg with the exception of some feeble flexor movements of the toes, slight weakness of the right extensors of the knee, and very slight weakness of both triceps muscles in the arm. Two months later all paralysis had cleared up with the exception of that in the left leg, which was still completely paralysed except for slight flexion of the toes.

In the third case excessive fatigue of one particular muscle in the arm, the radial extensor of the wrist, which is rarely paralysed in infantile paralysis, was followed within 36 hours by paralysis of this muscle, paralysis of the right deltoid, weakness of the right triceps, and weakness of the right gastrocnemius muscle. Later the gastrocnemius recovered completely, the triceps recovered almost completely, the deltoid remained considerably weakened, but the only muscle which remained completely paralysed and which finally wasted completely was that which had been fatigued to excess in the above way.

These three and two other similar but less striking cases have come under my observation in the past two years. The existence of four similar cases was referred to by Abercrombie. They appear to me to prove conclusively that accidental injury of one limb can impair the resistance of immediately connected segments of the spinal cord to attack by the virus of infantile paralysis. That it should impair also their resistance to the pathological changes of progressive muscular atrophy does not necessarily follow, and that the resistance of parts of the central nervous system less directly related to the site of damage can be altered as a result of such accidental injuries is suggested still less.

However, I believe that we can no longer with reason maintain that there is no evidence that injuries to a limb can influence in any way the development of diseases confined to the central nervous system, and must allow that when an injury does precede the development of one or another of these conditions, its possible contribution to the course of the disease cannot be summarily denied.

MATERNAL INJURIES OF CHILDBIRTH

(MR. LESLIE WILLIAMS)

MATERNAL injuries during pregnancy and childbirth may be classified as mild or serious. The mild include injuries to the abdominal and other muscles, injuries to the supports of the breasts, and dental caries.

So far as the abdominal muscles are concerned, I believe that binders do no good, though they serve a useful purpose in preventing the uterus filling with blood and rising during the first 24 hours after delivery. Instead, the tone of these muscles should be restored by exercises such as sitting up and down at frequent intervals from the very first day. Massage to the limbs may be started on the sixth day, and to the abdomen on the eighth. I feel satisfied that movements and massage do not increase the liability to pulmonary embolus.

The breasts should never be pressed downwards—as is often done by the nurse—with a binder round the chest. Rather should they be supported by a brassière during pregnancy and by a similar one of the next larger size as soon as lactation commences.

Dental caries may to some extent be limited by taking throughout pregnancy and lactation some preparation of calcium; but, should it appear, immediate treatment should be undertaken. Apart from wholesale extraction there is no fear of dental treatment causing miscarriage.

Among the serious injuries I include the various lacerations. It should be remembered that severe vaginal lacerations may occur while the perineum remains unruptured, and hence are in danger of remaining unrecognised. Their repair must not be performed in any careless manner; it is useless for example to attempt to repair a complete tear into the rectum unless the circumstances are favourable. For the operation requires a good light, the lithotomy position, an assistant, and an anæsthetist.

Lacerations of the cervix, though they sometimes occur in spontaneous natural labour, are, I believe, usually due to the premature application of forceps. It is amazing to note how often full dilatation of the cervix is diagnosed when really this state of affairs is but only half reached. Over and over again cases are sent in to maternity hospitals as "obstructed labour," "failed forceps," &c., and on investigation it is found that the cervix is perhaps one-half or one-third dilated. In such cases treatment by sedatives results in the fullness of time in spontaneous delivery. Such a failure to realise the absence of full dilatation of the cervix is due to the examination being conducted too rapidly and in too cursory a manner. In the intervals between pains the soft cervix may often be pushed aside by the examining finger and so give the impression of complete dilatation. If, however, a pain is awaited, the margin of the os will become tense and the real state of the opening can be appreciated. If this were regularly done there would be many fewer cases of forceps application through or outside the undilated cervix, and many fewer cases of cervical laceration.

When the forceps are applied inside an incompletely dilated cervix, and when traction is applied, the cervix, the upper part of the vaginal wall, and the subjacent bladder are dragged down, and it is probable that some dislocation of the structures surrounding the internal urethral orifice takes place. I believe that it is in this way that that most distressing symptom "stress incontinence" is brought about. It is also presumably caused after proper application of forceps if the operator neglects to make sure that the bladder is not being pulled down. At the time such maternal injuries are apt to be overlooked, but the patient's discomfort subsequently is a very serious matter. I have tried various operations to relieve these symptoms, for it must be realised that anterior colporrhaphy does not succeed in more than about half the cases. In some cases passing a catheter, exposing the urethra through the anterior vaginal wall, and tying an unabsorbable suture outside the urethra in the region of sphincter may succeed.

Perhaps the injury with the most distressing results for the mother is vesico-vaginal fistula. This is sometimes due to prolonged pressure on the bladder base, nipped between a large fœtal head and the back of the symphysis. But undoubtedly it sometimes results from forceps application without catheterisation of the patient immediately beforehand. I always teach students that when they go into practice and buy a pair of obstetric forceps, they should at the same time buy a catheter and tie it to the forceps. In this way this most essential precaution of catheterisation is not apt to be omitted.

Finally retroversion may be mentioned, though it must be stressed that only a small proportion of retroversions need such drastic treatment as ventrosuspension. The woman who had a congenital retroversion prior to her pregnancy is almost certain to develop retroversion again in the puerperium, but not only such patients, but all puerperal women, must be examined on the tenth day and the retroversion, if found, corrected. A pessary should then be fitted and this can be done at as early a date as this without any danger. All puerperal cases should again be examined six weeks after labour. It is often found then that the uterus previously anteverted has become retroverted. Its position can still be easily corrected and the organ remains soft enough to permit itself to be moulded into a good shape, as well as manipulated into a good position. A pessary is again fitted; and in this case, as in the one previously mentioned, it is changed three months later, and removed six months later.

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE

Surg. Lt. J. W. L. Crosfill promoted to rank of Surg. Lt.-Comdr.

Surg. Lts. (D.) R. W. Stevens to *Ganges* and F. A. Pearse to *Victory* for R.N.B.

ROYAL NAVAL VOLUNTEER RESERVE

Surg. Lts. R. M. Buchanan and A. R. Thomas promoted to Surg. Lt.-Comdrs.

Proby. Surg. Lt. W. F. Jones to be Surg. Lt.

ARMY MEDICAL SERVICES

Col. J. D. Richmond, D.S.O., O.B.E., late R.A.M.C., having attained the age for retirement, is placed on ret. pay.

The undermentioned Lt.-Col. to be Col.: H. L. Howell, O.B.E., M.C., from R.A.M.C.

ROYAL ARMY MEDICAL CORPS

Maj. R. G. Shaw, M.C., to be Lt.-Col.

Short Serv. Commn.—F. J. O'Dowd to be Lt.

ARMY DENTAL CORPS

Lt. (on prob.) R. H. Green is confirmed in his rank.

TERRITORIAL ARMY

Capt. A. M. Cooke to be Maj.

Lts. T. F. Briggs and J. G. Lawson to be Capts.

TERRITORIAL ARMY RESERVE OF OFFICERS

Maj. F. Hauxwell having attained the age limit, retires and retains his rank, with permission to wear the prescribed uniform.

ROYAL AIR FORCE

Flight Lt. A. Harvey is promoted to the rank of Squadron Leader.

Group Capt. A. E. Panter to R.A.F. General Hospital, Hinaidi, Iraq, for duty as commanding officer.

Squadron Leader A. Briscoe to R.A.F. General Hospital, Hinaidi, Iraq, for duty as medical officer.

Flight Lts. J. F. McGovern to R.A.F. General Hospital, Hinaidi, Iraq; C. G. J. Nicholls to R.A.F. Hospital, Aden.

Flying Offs. H. S. Barber to Aircraft Park, India, Lahore, V. D'A. Blackburn to No. 28 (Army Coöperation) Squadron, Ambala, India.

AUXILIARY AIR FORCE

No. 601 (*County of London*) (*Fighter*) *Squadron*: J. H. Williams is granted a commission as Flying Officer.

INDIAN MEDICAL SERVICE

Capt. C. V. Falvey to be Maj.

Lt. (on prob.) J. J. Barton to be Capt. (on prob.).

Capts. S. D. Dalal and A. Ahmed relinquish their temp. commns.

PANEL AND CONTRACT PRACTICE

ANNUAL PANEL CONFERENCE

REPRESENTATIVES of local medical and panel committees held their annual conference on Oct. 18th in the Great Hall of B.M.A. House, with Dr. H. C. JONAS (Barnstaple) in the chair.

Dr. H. G. DAIN (Birmingham), chairman of the Insurance Acts Committee (I.A.C.), moving the adoption of the annual report of the committee, reviewed the events of the past year. He remarked that, owing to the efforts of the committee during the last ten years in steadily dealing with criticisms of the medical service, the machine was running much more smoothly and giving greater satisfaction. No large measure of policy had been considered during the past year, and no action had been taken with regard to the capitation fee, nor would be until the second half of the cuts was restored. The I.A.C. had been anxiously concerned with the invasion of National Health Insurance and other medical practice by lay bodies who bought and sold practices on a commercial basis regardless of the doctors and their patients. It was seeking to make this traffic less profitable and more difficult, but the implications made the situation delicate and no definite suggestion was before the committee. It hoped for a solution by putting approved bodies in touch with one another so that the impecunious young doctor might be able to buy a practice on terms suitable to him. The I.A.C., the Medical Insurance Agency, and the British Medical Bureau were considering a scheme by which such purchases could be financed.

The largest single piece of work had, continued Dr. Dain, been to get together the representatives of the various types of approved societies and to discuss current problems with them. Many useful suggestions had been roughed out at these conferences and would improve the harmony of the scheme. When the I.A.C. next put up a case to arbitration for an increase in the capitation fee, it would be able to point to such improvements in the service and to claim that the insurance practitioners had done their utmost to make the service satisfactory. He believed that the arbitrators and the public would find it more satisfactory than it had been ten years before.

Pregnancy and Sickness Benefit

The various items on the report were then debated. According to the report, the practice of approved societies concerning the relationship of certification of pregnancy to sickness benefit differs widely. Discussions have been held with representatives of approved societies in order to agree on the validity of a certificate issued to an insured pregnant woman as evidence of her need for sickness benefit. The Ministry of Health maintain that pregnancy without incapacity for work is not sufficient. Some societies adhere rigidly to this view; some allow sickness benefit towards the end of pregnancy, and others refer all such cases to the regional medical officer (R.M.O.). The opinions of insurance practitioners vary concerning the advisability of normal pregnant women continuing at work at various parts of the term, and this difference results in varying standards of certification. Other confusing factors are the attitude of employers and the advice given at antenatal clinics. Dr. DAIN therefore moved, on behalf of the I.A.C., the following criteria, called "Recommendation A."

(a) That a medical certificate shall be held to be inadequate if it certifies the incapacity for work of the insured person on the ground of "pregnancy" alone;

(b) That a medical certificate shall be held to be inadequate if it certifies the incapacity for work of the insured person on the grounds of "pregnancy" even with an indication of the period of pregnancy;

(c) That a medical certificate shall be held to be adequate if it certifies the incapacity for work of the insured person on the grounds of "pregnancy" plus an indication of the period of pregnancy and plus an indication of the nature of the employment such as would in fact preclude the insured person from continuing longer at that work;

(d) That a medical certificate shall be held to be adequate if it certifies the incapacity for work of the insured person on the grounds of pregnancy and some disabling associated condition.

In answer to questions, Dr. Dain said that the definition of inadequacy was that the society would not pay benefit on the certificate but might ask the doctor to state an additional cause or refer the patient to the R.M.O. Such a certificate was still a legal document and the doctor could not be compelled to write any more, though he might be asked to do so in the interests of both parties.

Dr. W. HAMILTON (Midlothian) moved the following paragraph in substitution for paragraph (*b*):—

(*b*) That a medical certificate shall be held to be adequate if it certifies the incapacity for work of the insured person on the completion of the eighth month of pregnancy.

He maintained that a woman in the ninth month of an uncomplicated pregnancy was unfit for remunerative employment.

Dr. R. L. E. DOWNER (Salop) objected that pregnancy was not a disease, any more than was love or post-prandial repletion; the certification of pregnancy was not only inadequate but obviously wrong and almost immoral. Local club secretaries were in the habit of sending him women five months pregnant for certification, saying that the patient would be entitled to payment for six weeks. This was obviously done for propaganda purposes.

Dr. F. K. KERR (I.A.C.) advocated a change in the Act to stabilise the maternity benefit in favour of women before confinement as well as after.

Dr. DAIN agreed that this was one of the difficult questions of medical certification. The approved societies had been astounded to discover that not one-half of the women entitled to sick pay for pregnancy claimed at eight months. If the Midlothian amendment were carried it would mean the compulsory payment of benefit for the last month to many women who did not now claim benefit, and as a result there would have to be a reassessment of the funds. Any information the practitioner could give on the certificate made matters easier for the patient and the society alike. The recommendation of the I.A.C. was not intended to have the force of a regulation: doctors would still be competent to certify pregnancy only. What it would affect was the reception of the certificate by the society. It would always be open to the doctor to certify "pregnancy eight months, factory work." Such a certificate would be adequate and practically always save her the risk of being sent to the R.M.O. Women who claimed benefit at the end of the eighth month or after were generally given it by their approved society.

The Midlothian amendment was lost by a large majority and Recommendation A was adopted.

Dr. A. BEAUCHAMP (Birmingham) moved:—

That where an insured woman is certified incapable of work by reason of "pregnancy eighth month," and the

approved society requires the opinion of the regional medical officer, the arrangements should always provide that the woman is examined in her own home.

A reference to the R.M.O. of a woman advanced in pregnancy was, he said, a considerable hardship. Unnecessary references would be cut down and women would be saved from having to go a distance and sit in a mixed crowd where they might be exposed to infection. He explained, in answer to questions, that "eighth month" meant the thirty-sixth week. The chairman reminded him that the R.M.O. could examine a patient in her own home if the doctor certified that she was unfit to travel.

Dr. T. MACCARTHY (I.A.C.) confirmed the aspect of hardship to a woman in the ninth month of travelling on buses and trams and possibly of changing. He pointed out that attendance on an emergency confinement was not the ordinary function of a bus-conductor, and that not every R.M.O. was capable of attending a complicated one. Many women strongly objected to being "messed about" in a strange place.

Other speakers suggested that the threat of reference to the R.M.O. deterred many women from claiming benefit.

Dr. DAIN said that he was entirely in favour of protecting women from the indecent procedure of asking them to sit and wait among other people when they had completed eight months of pregnancy. On his advice the wording of the proposed certificate was altered to "Pregnancy after completion of eight months," and the conference passed the motion in that form.

Certification

The conference passed by a large majority a motion by the I.A.C. that it would be in the interests of all concerned if practitioners could make greater use of the space already provided on the certificate "You should come to see me again on.....day next," especially in cases where the practitioner considered the patient's incapacity was drawing to a close. The approved societies, said Dr. Dain, attached great importance to this suggestion. They were anxious to save the large aggregate of odd days which patients might "scrounge" by putting off the giving of the final certificate. This sentence enabled a doctor to prevent the patient from securing the undeserved extra day.

Insurance practitioners are not required to decide whether an incapacitating disease is occupational. Dr. Dain however thought that they might be requested to make on a first certificate the comment "? occupational" when they considered that possibly the character of the patient's employment might contribute to or cause his condition. The approved society would then take the necessary steps: the patient would be sent to the factory doctor and, in accordance with custom, the society would find the five shillings for examination. This proposal had, he said, been one of the most valuable results of the conferences with the approved society representatives.

Dr. ALEXANDER FORBES (Sheffield) strongly disagreed with the proposal, holding that it was dangerous to certify a condition as occupational even with a query. In his part of the country, he said, the patient was left to pay the five shillings.

The conference, however, agreed with Dr. Dain that the proposal of the I.A.C. represented an easy and convenient method of getting the question decided by the proper person.

References to R.M.O.'s

Dr. DAIN then moved an innovation in procedure over which he warned the conference that it might feel considerable qualms. The I.A.C., he explained, suggested that where a society felt that examination by the R.M.O. was desirable, it might issue to the practitioner a letter, the form of which was embodied in the resolution, asking him whether a final certificate had been issued by him or was likely to be issued by him in the course of the next few days. Annexed to the letter would be the following form for his reply:—

Dr.....
.....

I issued a final certificate on.....

Do you consider that any advantage would be gained by a reference to the R.M.O.?.....

Any other observations which you may wish to offer the society .....
.....

Signature .....

The conference, he said, was invited to advise doctors to supply the desired information. Some societies were already asking for the information in certain cases. In favour of the form he urged that it only required a plain "yes" or "no"; that it would save references to the R.M.O. and ensure that only those cases were sent which the practitioner agreed should go and not those whom anybody could see to be quite incapable of work. He accepted an amendment by London providing that the envelope enclosed for the reply should be stamped.

Dr. R. G. CHASE (London) said that London only agreed provided that sufficient professional safeguards were granted. He objected that the procedure was behind the patient's back. When a patient was referred to the R.M.O. he received a notice, but in the proposed procedure the doctor would write back without his consent, and the conference should be very careful that practitioners were safeguarded on the legal side.

Dr. J. O. SUMMERHAYES (East Sussex), moving an amendment to delete the "any other observations" line, suggested that young doctors might get into difficulties and give away professional secrets, but the conference did not share his apprehension.

The amendment of East Sussex was rejected, but Dr. S. A. WINSTANLEY (I.A.C. and Lancs) moved that doctors should in no case supply the desired information until after the issue of at least two intermittent certificates. He feared that, if this modification were not made, practitioners would be caused more irritation and trouble than by intensive references.

Dr. DAIN replied that the form would only be used when the sick visitor reported something doubtful about the patient's incapacity. Two societies would not adopt the letter for fear of losing the advantages in speed which they had gained by their special procedure.

The Lancashire amendment was therefore also lost.

Mr. F. H. WALLACE (Rutland) feared legal difficulties and was for rejecting the form until counsel's opinion had been taken, and Dr. G. F. WHYTE (Dundee) gloomily foresaw more work and not less to the practitioner, who would, he thought, soon be bombarded by societies with requests for opinions which had already been given in ordinary certificates. Dr. J. SNEDDON (Manchester) suggested that no extra work should be taken on until the cut was restored, but it was pointed out to him that no practitioner was obliged to supply the information. Dr. H. C. C. VEITCH (Huntingdonshire) pointed out that the procedure was easier than the form of reference which would be the alternative. Dr.

G. H. SEDGWICK (Yorks, West Riding) remarked that an opinion that no advantage would be gained by reference would not necessarily dispose of the matter, for the case would always be one in which the society wanted a second opinion. The extra work would not result in much fewer references.

Dr. DAIN, in replying to these numerous suggestions and opinions, observed that none of the required answers gave away any information about the patient's condition or infringed professional secrecy at all. There were, he said, a lot of patients about whom a lot of doctors had a lot of doubt. To state that there might be an advantage in reference would satisfy the somewhat uneasy conscience which every doctor had with regard to certain cases, while saving him the unsatisfactory procedure of referring the patient to the R.M.O. himself.

Its doubts appeased, the conference accepted the new procedure, with an additional line moved by Gateshead:

"I expect to issue a final certificate on . . . . "

Charging of Fees

Much controversy was excited over the perennial question of the return of fees charged to patients who have not disclosed that they are insured persons. Dr. DAIN, on behalf of the I.A.C., moved an amended Clause 7 (3) of the Terms of Service :—

> If a person in applying for treatment does not represent himself to be an insured person, but subsequently within three months from the date of the presentation by the practitioner of an account or the payment to the practitioner of any fee or of the last of any fees paid where no account is rendered in respect of that treatment, requests the committee to secure the withdrawal of the account or the refund of the fee or fees, and the committee are satisfied that he was eligible to receive treatment from the practitioner as an insured person, the committee may, if they think fit, and if they are satisfied that the action of the doctor in presenting an account or charging a fee was due to a genuine misapprehension, require the practitioner to withdraw his account or recover from him by deduction from his remuneration or otherwise the fee or fees paid by the applicant, but in either event, if the applicant was not at the date of the treatment on the practitioner's list, the committee shall credit the practitioner with the remuneration to which he would have been entitled if the applicant had been attended by him as a temporary resident, and with payments calculated on the basis of the drug tariff, in respect of any drugs and appliances supplied to the applicant. Subject to any deduction which may be made by way of inflicting a penalty under the committee's rules, the committee shall repay to the applicant the net amount of any fee or fees recovered, and of any payment made by him in respect of drugs or appliances obtained on the practitioner's prescription which he would, if he had received treatment as an insured person, have been entitled to obtain free of charge.

He explained that the amended clause had first been put forward subject to one month being the period within which a claim by an insured person might be allowed, but the Ministry had insisted on the notice being increased to three months. As the I.A.C. had been very concerned to have the principle established, they had considered it worth while to concede the extension, while regarding three months as unnecessarily long.

Dr. E. K. LE FLEMING (I.A.C.) reminded the conference of the issue behind the clause. The question on the interpretation of Clause 7 (3) had arisen at the time of the trouble in Dorset, and of the Ministerial inquiry into it. One of the grievances of the Dorset practitioners had been that, in spite of an assurance which they had believed they had been given by the Ministry, they had been "crimed" for mistakes made on genuine misapprehension. The inquiry had been very satisfactory and assurances had been received that the matter should be put right and that the clause should be amended. Negotiations had been carried on ever since. The difficulty on the side of the Ministry was that the old clause had clearly had in mind the possibility of genuine misapprehension, but if read carefully by an astute person anxious to evade the spirit of the regulations it undoubtedly left an opening for a man who had been guilty to ride off on the excuse that the patient had never said that he was on that man's list and that therefore the practitioner had not known it. This difficulty was overcome by the new form of words, but at the price of the extension to three months. If the conference insisted on retaining the one-month period, the whole clause would be lost and the safeguard of the "genuine misapprehension" would be jeopardised.

Dr. WINSTANLEY maintained that under the improved regulations between insurance committees, panel committees, and practitioners no practitioner ran any risk from committing a bona-fide error. The present position was satisfactory and the extension to three months would still further increase the losses which practitioners suffered from these claims.

Dr. CHASE said that this class of claims was increasing. In ten years as a member of a medical service subcommittee he had never heard a case of a doctor charging a patient on his own list, which was the type of case always mentioned before the I.A.C. A greater and more insidious evil was the surreptitious way in which patients deliberately deceived insurance practitioners, going to some lengths in order to do it, with a view to being treated as private patients, a course which they found much more convenient. The I.A.C. had now increased the time within which such patients could claim a refund of fee, and he could not understand why three months should be necessary.

Dr. R. W. TAYLOR (Oxon) said that the medical men of that county had now convinced their insurance committee of the justice of their case and such claims were received with scant sympathy. The conversion had taken a little time but had been achieved. He recommended other counties to do likewise.

Dr. DAIN explained that the amended clause put forward by the I.A.C. made it quite certain for the first time that the safeguard applied to patients who were not on the doctor's own list. The I.A.C. did not want the interpretation of the clause to depend on goodwill but to be certain. It desired all such cases to be dealt with by the medical benefit subcommittee. In exchange for this advantage it had to submit to the extension.

The amended clause was carried by a large majority.

THE TRIBUNAL

Dr. CHASE then moved that all claims submitted under this clause should be decided by the medical service and not by the medical benefit subcommittee. He maintained that the medical service subcommittee did not exclusively try "crimes" and was composed of an equal number of doctors and laymen, whereas the medical benefit subcommittee had scanty medical representation, decided all the claims on the papers alone, and had been known to go astray. In the country, he said, these decisions were often made entirely by the clerk and not by the subcommittee itself.

Dr. S. P. HUGGINS (Bucks) objected on the grounds that doctors were not proud to appear before the medical service subcommittee, which commonly tried graver charges, and that difficulty rarely occurred with lay members in a just case.

Sir HENRY BRACKENBURY said that the difficulty about the London motion was that circumstances

varied in different parts of the country and it would be wrong to pass a general resolution applying everywhere. In most cases the situation was eased by the decency of the clerk and the members of the subcommittee. The medical service subcommittee was set up for the protection of the doctor. In London there might well be a good many cases where the doctor, for his own protection, would rather have his conduct tried as a charge before the medical service subcommittee than as a vague subject of discussion before another committee. A doctor who preferred to take his case before the medical service subcommittee should therefore have a right to do so. Sir Henry commended his suggestion to the I.A.C. for consideration, and the conference agreed to refer it to that committee together with London's motion.

Temporary Residents

The meeting approved a memorandum of the I.A.C. on the existing system of payment for temporary residents. East Suffolk, represented by Dr. H. HENRY, appreciated the memorandum but wished to propose that the temporary residents' fund should be self-supporting in each area, with a universal rate for the kingdom. Dr. DAIN said that the present figure of 8s. was not a permanent one but fixed yearly by the appropriate committee, of which he was a member. The number of attendances to temporary residents had, in course of time, become less varied and the figure selected had seemed to fit the country. Suffolk wished to make it compulsory on all areas to give the same amount, but the money belonged to the local committees, which might well be allowed autonomy in distribution. The motion was lost, and similar motions by Notts and Lincs (Lindsey) were, by leave, withdrawn.

"Own Arrangements"

A second memorandum was also approved, with an expression of thanks to the office for putting it together. Dr. J. W. E. CORY, however, proposed for West Suffolk:—

That it be made a condition of approval of a collective application by the insured members of the staff of a hospital to be allowed to make their "own arrangements" for receiving medical attendance and treatment from the institution that any such insured member shall be entitled to a refund from the institution of the cost of treatment and drugs and appliances obtained whilst temporarily absent from the institution.

He instanced the case of the nurse who came for services on holiday from an institution which had no fund to meet charges. Dr. DAIN cordially agreed with the proposal which, he said, was in force in his area. Approval of new institutions should be conditional on a willingness to pay. The committee had had no previous instance of failure to pay. Dr. M. W. RENTON said that this situation amounted to a pest in the Kent area. New members of institution staffs had their cards taken from them and a strange name written on—not always a member of the hospital staff; the local doctor was then asked to treat the case as a temporary resident. He strongly supported the resolution, which was carried.

Dr. W. J. LOGIE said that Falkirk wished to abolish the whole system. Doctors who took a few panel patients only might well give up the panel or else make it a larger part of their work. Trouble would be saved if people in institutions were treated as a special non-panel class. Falkirk's motion was lost, but the meeting carried a motion proposed by Dr. HENRY (East Suffolk) that insured members of staffs should be dealt with by the "closed panel" method, and "own arrangements" be forbidden. He knew, he said, of cases where payment had been refused. The closed panel enabled these people to be treated as temporary residents when away from the institution.

Deputising

Dr. A. K. GIBSON proposed for London—

That . . . this conference is of opinion that the appointment of regular deputies to medical members of insurance committees would be in the best interests of the service, and instructs the I.A.C. to press for the appointment of such deputies.

The principle, he said, was not in dispute. Many practitioners found it difficult to leave their work in order to attend committees, whereas non-medical members found it easy, the result being an imbalance in the committees. Each doctor ought to have one deputy. This had the additional advantage of giving experience to non-members who might later become members. Dr. DAIN pointed out that the proposal would require legislation and the effect of that would be to empower all members, lay and medical alike, to appoint deputies. He did not consider that desirable. Dr. GIBSON disclaimed any wish to make it easy for anyone not to attend, but lost his motion by a large majority.

Medical Records

Dr. DAIN proposed that there be only one method of record-keeping by insurance practitioners and that the existing method be retained. He said that after an inquiry into the records, and discussion on the obligation to record visits and attendances, the committee had decided that the advantages outweighed the disadvantages. If the doctor had to make a tick he would have the card handy for the clinical note which was so desirable. Pursuant to the desire to improve and properly evaluate the clinical note, Dr. Dain also moved, and carried without discussion—

That, while the existing method is continued, the Ministry's assessment as to the value of a practitioner's records should have a bias in favour of the clinical notes as opposed to the minuting of attendances and visits.

That machinery similar to that already provided by the Medical Benefit Amendment Regulations, 1930, in the matter of certification, should be set up to enable the Minister to make use of the panel committee in taking action against a practitioner who, after warning, does not improve the standard of his clinical medical records.

Scotland

Dr. HAMILTON (Midlothian), Dr. KERR, and Mr. D. E. DICKSON (I.A.C.) pleaded for a Scottish panel conference—indeed, the two latter demanded it as a right, though Mr. Dickson explained that this year there had been insufficient agenda to make it worth while; he did not think "pro borborygmi" or "as a carminative" was adequate reason for an expensive conference. It was the Scottish subcommittee which had decided to omit the meeting this year. The motion was lost. Dr. HAMILTON then brought forward a motion by Midlothian urging reconstitution of the Scottish subcommittee as the Insurance Acts Committee (Scotland) with substantive powers. He added that there were only three Scottish insurance practitioners on the I.A.C. and 15 other members, who could outvote them on matters of vital importance. Banffshire objected to any alteration and, in the person of Dr. J. TAYLOR, expressed full satisfaction with present arrangements. If Scotland had an independent I.A.C., he declared, Wales and Northern Ireland would want one and the strength derived from unity would be lost. His witty review of the process of history, whereby Scotland had taken over England by peaceful penetration, persuaded the conference that

Scotland might well be content to run the British Insurance Acts Committee. Dr. KERR argued that the Scots were a different people with completely different problems, but Dr. DAIN pointed out that Scotland itself did not want separation—only Midlothian. The medical profession of the British Isles knew no racial distinctions. The result was that the conference negatived the proposal, as it has often done before.

Extension of Medical Benefit

Dr. DAIN accepted the following motion by Banffshire:—

That the signs of the times indicate it is now opportune for the I.A.C. to consider the question of approaching the Government through the Minister of Health, to give effect to medical benefit, under the National Health Insurance Act, being made available to the dependants of the present insured, and to all others, including dependants, whose limit of income does not exceed the present N.H.I. level. Further, that the National Health Insurance be not a separate entity, but an integral part of the general health service of the country.

Dr. DAIN assured the conference that the I.A.C. would lose no opportunity of forwarding the objects of the resolution and Dr. G. C. ANDERSON, medical secretary of the B.M.A., remarked that the council of the Association was considering the whole matter and would in due course approach the Minister.

Dr. JONAS was reappointed chairman of the conference.

SPECIAL ARTICLES

THE HARVEIAN DINNER

ROYAL COLLEGE OF PHYSICIANS OF LONDON

ON the evening of St. Luke's Day, Oct. 18th, after the delivery of the Harveian Oration by Dr. JAMES COLLIER, the annual Harveian banquet was held in the Royal College of Physicians, Lord Dawson of Penn presiding. The toast to the memory of William Harvey was drunk in silence.

Lord DAWSON then proposed the toast of the Guests. He called to mind that each year, on St. Luke's Day, the College commemorates the life and work of William Harvey by worship at St. Mary-le-Bow, by an oration, and by the feast now being held, each function being "conformable to the Founder's admonition and our own desires." He noted the rich learning which Dr. James Collier had manifested in the oration and the wisdom of the sermon delivered at St. Mary-le-Bow by the Bishop of Southwark; and of the diocese of Southwark in Harvey's day Lord Dawson drew an interesting picture. For "Bankside"—the Thames' southern shore opposite St. Paul's—became the home of the drama; the Rose, the Swan, the Hope, and greatest of all the Globe theatres were built there in succession, and at the last Shakespeare produced, acted, and gathered fame. Near by the Globe theatre were the Bull and Bear baiting rings, the Fish Ponds, and the Falcon Inn, with the Palace of the Bishop of Winchester alongside this playground of London. Harvey, said the speaker, within the length of his days and the compass of three reigns, saw this glory rise and set, saw the drama decay and the last bulls shot with the coming of the Puritans, "whose rectitude, alas, included destruction of the beautiful." Lord Dawson then mentioned by name, with appropriate compliments, some of the guests present, especially calling attention to the presence of Lord Greville, who had before him the problem of the future of a big London hospital, not only its site but its government. He proceeded to dwell upon the educational responsibilities of the College. "The physical sciences," he said, "such callings, for example, as those of the engineer and the chemist, depend on their technical knowledge and aptitude of craft. Their problem of education is relatively simple. On the other hand the qualifications for a priest, a lawyer, a doctor, a teacher, are not comprised within the faculties of a University. In addition to the universities, to which they are proud to belong, more intimate contacts are needed by students of medicine with the phases of life in which they will serve. And thus it is that this College embraces the graduates of many universities here and overseas. He held that the Royal Colleges occupied the same important position towards medicine as the Inns of Court hold towards law. The physicians of our greater hospitals one and all are found within its ranks; it has become possessed of a living force which holds and guides those who pursue the science and art of medicine. Our concern is not only knowledge and its furtherance, but such applications of that knowledge as will adapt it to the growing needs of social life. For of one thing we may be sure, namely, that medicine must play an increasing part in that constructive statesmanship which has for its aim the health and contentment of the people. It is concerned not only with the man who is sick but the man who is up and doing. Each year arise services concerned with constructive health—it may be industrial medicine, or psychology, or school clinics, or maternity care. It is in such things that education has a frontier with ourselves."

He associated with the toast Lord Gorell and Mr. Maurice Healy. To the former he alluded as a writer and maker of books, and an authority on education and problems of welfare which jointly concern the doctor and the educationist. Of Mr. Maurice Healy he said that we had here typified the grave and the gay, a man who was grave in his gifts of law and oratory, on whose shoulders rested the mantle of the Immortal Tim, and a high priest in a society for the Study of Food and Wine, in which society the speaker was a humble acolyte.

Lord GORELL, after describing amusingly the competition that existed as to which was the oldest profession, directed his remarks to that of teaching, pointing out the disability under which the teacher suffered from the non-existence of a body of registration for him. A man could not be a doctor, or a lawyer, without having been tested by his own colleagues. He hoped that that position would be attained for the teaching profession, inasmuch as it was open to-day for any man, whatever his teaching capacities, to call himself a teacher.

Mr. MAURICE HEALY, after commenting approvingly on the menu, gave two eloquent testimonies to the qualities of the doctor. He had watched during the long period when he had been stretcher-bearer, the work of the doctor in the trenches, and he could not speak too highly of the courage, good temper, and skill with which the ministrations had been discharged. Secondly, he referred to the death of a personal friend of his own who, despite success that would have warranted him, from a worldly point of view, in transferring his practice to an easier environment, steadily refused to leave the East End of London

where he had become the friend of his poor patients while they lived, and where he devoted a large part of his income to the succour of the dependents of those who died.

The toast of the Harveian Orator was then given by Prof. LANGDON BROWN, who commented on the wide range of knowledge displayed by Dr. Collier in the Harveian Oration, adding that one never met Dr. Collier without learning from him something that was worth while. Dr. Collier, who received a warm welcome, replied briefly, mainly in justification of his use of the word invention in reference to Harvey's great discovery. Harvey had devised and originated new methods, and the description of his work as an invention, he thought, was justified, though he knew it had been criticised.

The guests included Lord Greville, the joint Treasurer of St. George's Hospital; the Bishop of Southwark; Dr. E. Bramwell, President of the Royal College of Physicians, Edinburgh; Sir Holburt Waring, President of the Royal College of Surgeons, England; Dr. J. S. Fairbairn, President, British College of Obstetricians and Gynæcologists; Dr. Robert Hutchison, President, Royal Society of Medicine; Dr. Edward Mellanby, Secretary, Medical Research Council; and Dr. Brès of Cannes.

MEDICINE AND THE LAW

Hospital Fees Included in Damages

SECTION 16 of the Local Government Act of 1929 imposed on county councils the duty of recovering the expenses of a patient's maintenance in their hospitals. An intricate question, arising out of this duty, was decided last week by the Court of Appeal. Mrs. Allen, living with her husband in Chelsea, met with an accident a year ago owing to the defective condition of the basement steps at her home. She was taken to St. Luke's Hospital where she remained till her discharge last January. The hospital, belonging to the London County Council, sent Mr. Allen a bill for £16. He included this amount in the damages for which he successfully sued in the Brompton county court in a claim against the landlord of the Chelsea premises where the accident occurred. The landlord appealed on the ground that the £16 should not have been so included because Mr. Allen had not yet paid that amount to the hospital and was in fact under no legal liability to pay it. The Master of the Rolls observed in general terms at the outset of his judgment that it not infrequently happens that a husband is liable for doctor's fees which he has not yet paid when he brings his action for damages; as he has a liability to pay the doctor's bill, the amount is added to the damages.

"The Court thinks that the same principle applies here and that it was open to the county court judge to award the amount to Mr. Allen with a liability for payment by him of the amount to the hospital; it was in that sense that the county court judge gave judgment and in that sense that this Court supports it."

Two rather technical arguments were submitted by the appellant landlord. First, he contended that, though the Act of 1929 put a duty on the London County Council to recover the hospital expenses from the patient, the statute did not make the patient liable to pay. Secondly, he referred to the concluding words of Section 16 which ordains that the hospital expenses "shall, without prejudice to any other remedy, be recoverable summarily as a civil debt." The summary recovery of a debt before the justices, he said, was barred unless the proceedings were taken within six months; the L.C.C. was too late with its claim, and therefore Mr. Allen was not legally liable. The Master of the Rolls rejected both arguments. On the latter point he observed that the statutory saving for "any other remedy" left it open for the L.C.C. to sue in the county court where the six months' time limit did not exist. There was thus an enforceable liability upon Mr. Allen to pay the hospital authority. In spite of a partial difference of opinion on the part of Mr. Justice Goddard, the three judges of the Court of Appeal agreed that the appeal must be dismissed, and that Mr. Allen was entitled to include the hospital expenses in his claim for damages.

IRELAND

(FROM OUR OWN CORRESPONDENT)

HOME HYGIENE AND THE MILK-SUPPLY

THE Meath hospital is the only one of the clinical hospitals of Dublin which maintains the old custom of opening the winter session by an address. This year the duty fell to Dr. R. E. Steen, one of the physicians to the hospital, and he chose as his subject Home Hygiene. He dealt first with the question of school hours, a question which was much canvassed in the newspapers a year or two ago. He said that the system of school hours in the country was detrimental to the health of the children. The school hours were from 10 A.M. to 3 P.M. with only a short break at midday for a lunch of bread or at most of bread and milk. By the time home was reached—3.30 or later—the child's appetite was lost, and the hot meal which should be the child's mainstay was hardly touched. He referred also to the milk-supply of the country, and the efforts that had been made in recent years to safeguard it. Within the present year a Bill dealing with the milk-supply had been introduced in the Dáil, which, among other things, would prevent the use of misleading titles by milk vendors. At present, and until the Bill should become law, a man might sell milk teeming with microbes under a title such as Grade A without exposing himself to any penalty. An association of milk producers had recently been formed under the name of the Tubercle-free Milk Producers' Association, the members of which sold only milk from herds periodically tested for tuberculosis. Such milk was sold at the ordinary market prices.

Prof. W. Boxwell, speaking to a vote of thanks to Dr. Steen, said that the clean milk campaign was a very important thing, but what was wanted more in the country was a campaign for general cleanliness. Prof. J. W. Bigger, who presided, said that Government authorities had not utilised the knowledge acquired by the medical profession. If he himself were so unfortunate as to be appointed dictator of the country for one year he could reduce the number of deaths from diphtheria by 90 per cent. in the year, and in the same proportion he could also reduce the deaths from bovine tuberculosis. If he were dictator he could guarantee to eradicate all forms of tuberculosis within twenty years by utilising the knowledge which the medical profession had to-day for preventing disease.

THE LONDON MEDICAL EXHIBITION

Drugs and Pharmaceutical Preparations

(*Continued from p. 895*)

(137) J. F. MACFARLAN AND CO. (32, Bethnal Green-road, E.), in addition to anæsthetic products, showed Brisettes, chloroform capsules containing 20 minims for the second stage of labour; Opoidine, a soluble injectable opium preparation for premedication in insomnia and malignant disease; and a maternity outfit containing Brisettes, opoidine with scopolamine, and scopolamine alone in ampoules.

Surgical Instruments, Appliances, and Sundries

(90) ALLEN AND HANBURYS LTD. (Bethnal Green, E.) introduced a new hand soap equivalent to 1/20 carbolic and superfatted to ensure suppleness of the skin; and had a large selection of surgical instruments and appliances on view. On their stand was demonstrated the Cossor Robertson Cardiograph, a British portable electrocardiograph, the cathode ray of which is an electron beam arrangement, thus removing inherent inertia. The resulting record is singularly free from distortion, and the apparatus allows direct visual observation as well as a photographic record. The doctor can carry this small apparatus in his hand to the bedside, work it from the electric light main, a 12-volt battery, or his car, and study the cardiograph for as long as he likes, attaching a camera to make a record of the critical periods.—(7) ARMOUR AND CO., LTD. (Armour House, St. Martin's-le-Grand, E.C.), showed their heat-sterilised British surgical catgut which can be supplied with eyeless needles and for which they claim great tensile strength.—(30, 31) ARNOLD AND SONS (50–52, Wigmore-street, W.) had a wide range of surgical instruments and diagnostic apparatus, notably chromium-plated sterilisers, including combined models for bowls and instruments, and high-pressure steam and vacuum sterilisers; and the latest improved model of the "Arnold" operation table mounted on oil pump base, chromium plated, and with fool-proof action.—(59) AURAL APPLIANCES, LTD. (135, Wigmore-street, W.), introduced the Sonotone hearing aid, a method of using balanced bone conduction in such a way that absolute equality of frequency is obtained along the whole surface of the vibrator. A special shell microphone is attached to an Ever Ready battery amplifier, and the patient hears directly through the bone, jumping the faulty middle ear altogether. The apparatus can be applied to classes, so that deaf persons can hear the radio or gramophone or the words of a lecturer.—(29) JOHN BELL AND CROYDEN (50–52, Wigmore-street, W.) showed their range of sterilised surgical dressings, which are now periodically tested at a pathological institute.—(52) BRITISH ALKALOIDS, LTD. (Winchester House, E.C.), emphasised again the non-toxic and non-caustic value of their antiseptic T.C.P. for external and internal use.—(26) BRUCE GREEN AND CO., LTD. (14, Bloomsbury-street, W.C.), showed electric ophthalmoscopes and other optical apparatus, especially a new ophthalmic transformer, a mains adaptor for converting diagnostic sets or connecting instruments to the grid.—(145) CLEMENT CLARKE, LTD. (16, Wigmore-street, W.), had many varieties of optical apparatus on show, and especially pointed out their new ophthalmoscope made of Bakelite and giving an exceptionally wide area of view; and the Synoptophore, an improved apparatus for the cultivation of binocular vision.—(141) STANLEY COX, LTD. (11, Gerrard-street, W.), showed an ultra-short wave diathermy equipment, and a posomoter for measuring ultra-violet radiation and so enabling the physician to write an accurate prescription for phototherapy.—(167) H. E. CURTIS AND SON, LTD. (7, Mandeville-place, W.), showed a series of abdominal supports, such as "En Mains Croisées," for lifting the lower abdominal contents; and the Agordion colostomy belt, a new device.—(33A) CUXSON, GERARD AND CO., LTD. (Oldbury, Birmingham), showed surgical plasters of many kinds, notably the Variban elastic plaster bandage for varicose ulcers; also Sanoid surgical ligatures, recommended for their flexibility, strength, and silkiness; and Antoxa anti-rust tablets, which prevent discoloration of steel instruments during boiling by neutralising the free oxygen in the water.—(65) THE DENVER CHEMICAL MANUFACTURING CO. (London, E.3) once more appeared to remind practitioners of Antiphlogistine, the original clay poultice which has now been in use for over 40 years and can be supplied with picric acid, ichthyol, or beta naphthol dressings.

(154) J. AND E. FERRIS, LTD. (33, Museum-street, W.C.), showed their well-known artificial limbs and demonstrated the principles upon which they are built. They stressed their individual study of each case and strict attention to the external appearance of the limb.—(18A) HARMAN FREESE (32, Great Dover-street, S.E.) showed their chemical and mechanical contraceptive appliances, particularly drawing attention to the Gamophile rubber occlusive pessary on the Hodge Smith model, which is said to give a better fit for all cases as well as for cases of retroflexion; also the Eugam contraceptive and lubricating jellies with the special attachment for ensuring sterile application to the upper part of the vagina, the dose being contained in a glass nozzle which can be destroyed after use.—(18) THEODORE HAMBLIN, LTD. (15, Wigmore-street, Cavendish-square, W.), selected from their many ophthalmic instruments the Lister-Morton ophthalmoscope; the Pugh Orthoptoscope automatic test type; the full line reading glass; and the reinforced unsplinterable lens known as Salvoc.—(4) HANOVIA, LTD. (3, Victoria-street, S.W.), displayed their actinotherapeutic models, particularly the new Alpine Sun Lamp, an improved form giving greater intensity and accuracy; the Kromayer Lamp Model II for the general practitioner; and the Super Kromayer for the specialist in focal actinic treatment.—(38) HAWKSLEY AND SONS, LTD. (83, Wigmore-street, W.), in addition to their well-known diagnostic instruments, had on view the tonoscillograph of Prof. Plesch, a smooth, strong, and handy-sized instrument which gives a very reliable reading and is fitted to a special armlet which fits snugly round any arm, however odd its shape.—(121) C. J. HEWLETT AND SON, LTD. (35, Charlotte-street, E.C.), showed their useful Complete G.P. and G.P. Midwifery bags, containing essential equipment systematically arranged; Baron's Lithotomy Support; and their tannic acid outfit for the treatment of burns.—(17) HINDERS, LTD. (174, Estcourt-road, S.W.), showed a number of foot supports, notably a leather one with an inside flange; and a useful elastic ankle support (the Vigger) designed to hold both the ankle and the instep firmly.—(2) THE HOLBORN SURGICAL INSTRUMENT CO., LTD. (26, Thavies-inn, Holborn-circus, E.C.), exhibited a collection of surgical instruments and hospital furniture, including tubular steel consulting-room furniture; N.I.M.R. hypodermic syringes made of green glass; and Billing's thermometer case.—(110) THE INHALING DRUG AND APPARATUS CO., LTD. (87, Eccleston-square, S.W.), showed the latest model of their Collison Inhaler for administering drugs through the respiratory tract.

(143) JOHNSON AND JOHNSON (GREAT BRITAIN), LTD. (Slough, Bucks), had added to their well-known plasters a new Drybak waterproof, zinc oxide, adherent, sun-tan coloured plaster which is inconspicuous and can be washed repeatedly without becoming soggy. They had also a new neat-edged ("crushed edged") bandage made on a special machine and guaranteed not to fray; and Ethicon catgut prepared by a new process to give pliability and tensile strength.—(142) C. DAVIS KEELER, LTD. (47, Wigmore-street, W.), showed ophthalmoscopes and other ophthalmic apparatus, and especially demonstrated a new model of the Keeler Wide Angle Ophthalmoscope which, they said, gives a larger and more brilliant picture of the fundus than any other

instrument of its kind.—(119) LACTÉOL DU DR. BOUCARD (30, Rue Singer, Paris) showed their lactic ferment powder for wounds, ovules, suppositories, wet dressings, and other preparations.—(135) THE LONDON HOSPITAL LIGATURE DEPT. (Whitechapel, E.) exhibited London Hospital sterile catgut; the ligature is prepared under antiseptic conditions from the moment when the intestine is removed from the animal.—(43) MEDICAL SURGICAL SUNDRIES, LTD. (97, Swinderby-road, Wembley), exhibited various specialties, including the Esseff inhaling apparatus, emergency car cases, name-plates, and diagnostic sets.—(92) MONSOL, LTD. (Vincent House, Vincent-square, S.W.), had added to their germicidal series Neo-Monsol liquid germicide, which is said to be non-toxic, non-irritant, and non-staining, with a Rideal-Walker coefficient of 6; and Monsol Gel, neo-monsol in jelly form which mixes instantly with water forming a powerful emulsion.—(57) PEARSON'S ANTISEPTIC CO., LTD. (172, Buckingham Palace-road, S.W.). demonstrated again the value of Iodine-Medol, a non-toxic and non-irritant iodine and creolin ointment which has been found useful in impetigo and psoriasis; Medol Analgesic ointment; and Creolin, recommended for gynæcological work, gargling, inhalation, and the irrigation of wounds.—(24) W. H. PETTIFOR (11, Victoria-street, S.W.) showed electrical aids of various pitches for the deaf, and new bone conduction aids in which the amplified currents, from a microphone are supplied to a coil wound on a ferromagnetic core, the Joule effect in which causes it to vibrate with the frequency of the current, the vibrations being transmitted to the cochlea through bone conduction either by clenching in the teeth or by pressing on the mastoid.—(46) PHARMACEUTICAL CORPORATION, LTD. (39–40, Aldersgate-street, E.C.), showed their well-known Novutox local anæsthetic in bottles, rubber-capped bottles, ampoules and cartridges, and their Novaseptic germicide particularly recommended for the mouth and nose.—(42) PORTABLE X-RAYS, LTD. (Power-road, Chiswick, W.), showed a variety of negatives taken under portable conditions, and demonstrated the great advance in this service, the popularity of which is evidenced by the fact that over 2000 doctors have made use of it in the past ten years.—(23) RAYNER AND KEELER, LTD. (100, New Bond-street, W.), picked out from their range of ophthalmological and diagnostic instruments a new electric auriscope with a large battery in the handle and the illumination confined to the extreme tip where it is needed.—(51) RECKITT AND SONS, LTD. (40, Bedford-square, W.C.), again presented Dettol, a germicide with a Rideal-Walker coefficient of 3, making it one and a half times as efficient as the Liq. Cresolis Saponatus B.P. It was originally prepared for obstetricians and gynæcologists, and is now supplied in the form of a 30 per cent. cream as well as a liquid.—(12) W. J. RENDELL, LTD. (161–165, Rosebery-avenue, E.C.), reminded visitors again of the proved value of their pessaries, which have now been in use for over 50 years; and distributed copies of their new booklet describing the various methods of birth control.

(88) THE SCHOLL MFG. CO., LTD. (182, St. John-street, E.C.), in addition to a display of appliances for foot trouble, demonstrated elegant rubberless surgical stockings for wear during and after injection treatment for varicose veins; elastic stockings, armlets, and knee-caps in various weights; a new line of chromium-plated tubular furniture for the surgery and waiting room; and invalid chairs and radiant heat lamps.—(62) A. G. SHELDON AND CO., LTD. (3, Great Woodstock-street, W.), in addition to all kinds of sterilised dressings, introduced a new cheap maternity outfit, supplying the bare essentials, absolutely sterile, for 5s., and also a surgeon's emergency dressing package. In both these outfits, lint or paper is used instead of towels, so that nothing need be returned.—(66) T. J. SMITH AND NEPHEW, LTD. (42, Tavistock-square, W.C.), showed their now familiar Elastoplast and Semiplast bandages and specialty dressings, which include medicated dressings, wrist straps, and elastic cloth bandages; and the Cellona bandage and splint, containing 90 per cent. of plaster-of-Paris incorporated in the cloth.—(157) SPARKLETS, LTD. (93, Regent-street, W.), showed a simple pocket resuscitator in which one turn of a lever releases a supply of carbon dioxide; it can be used for the treatment of spasmodic bronchial affections, and an adaptor enables it to be used also to produce carbon dioxide snow pencils instantly anywhere at a low cost.—(6) THE SURGICAL MANUFACTURING CO., LTD. (83, Mortimer-street, W.), pointed out their small portable infra-red and radiant heat outfit; and a new surgical diathermy apparatus for use in bladder work, giving a good cutting edge under water.—(36A) EDWARD TAYLOR, LTD. (Monton, Lancs), showed their well-known adhesive and medicated plasters, particularly stressing Flexoplast, the elastic plaster bandage which can be supplied full-spread, ventilated, or half-spread.—(97) THE THERMOGENE CO., LTD. (160, Piccadilly, W.), has added to its popular medicated wadding a Vapour Rub balm in a lanolin base, acting as an anodyne and rubefacient.—(105) "WAITES" ANTISEPTIC LOCAL ANÆSTHETIC (Cook's Laboratories, New York) showed their local anæsthetic, which has now been in use for over 40 years; the Solila stainless steel needles, and Adco hypodermic syringes; and demonstrated the cartridge method of injection for speed and prompt effect.—(123) WATSON AND SONS, LTD. (Sunic House, Parker-street, W.C.), had on view various ray apparatus, notably the Sunic Junior, a diagnostic set which can be plugged into a light or power point and has been made as fool-proof as possible; they also showed Novotherm 450, a valve-operated short-wave therapy outfit, to be used for even heating at all depths.—(16) THE WILSON RUBBER CO., LTD. (85, Buckingham-avenue, Slough), had added to their range of surgical gloves an obstetrical gauntlet giving protection up to the elbow; a rubber compound post-mortem glove specially reinforced to withstand mechanical and abrasive strain; protective sleeves to be used in conjunction with all gloves, and a special "Surgeon's Glove" designed to give the maximum of elasticity, comfort, and "touch."

Food, Drinks, and Vitamin Preparations

(93) BOVRIL, LTD. (148–166, Old-street, E.C.), showed again their well-known beef preparations and emphasised their nutritive value.—(84) BRAND AND CO., LTD. (Mayfair Works, Vauxhall, S.W.), in addition to their famous essences, jellies, and meat juice, introduced a new preparation, Brandox, combining fibrous meat residue, hydrolysed to a perfectly soluble state, and vitamin malt which adds diastase and vitamins A, B, and D.—(100, 101) CADBURY BROTHERS, LTD. (Bournville), dispensed comforting drinks of Bourn-vita and emphasised the real food value of their milk chocolate.—(144) CORN PRODUCTS CO., LTD. (Bush House, W.C.), showed their Dextrosal brand dextrose and liquid glucose, and their Karo syrup, a mixed carbohydrate food for infants and children.—(77, 78, 79) COW AND GATE, LTD. (Cow and Gate House, Guildford, Surrey), in addition to their milk foods, chocolate milk, and predigested food, Peptalac, had a new preparation, Daltose C.G., a carbohydrate mixture containing maltose, dextrose, soluble vitamins, and vitamin D, specially prepared for the modification of milk.—(115) ENERGEN FOODS CO., LTD. (Willesden, N.W.), pointed out their starch-reduced preparations and other products, including damson jam and marmalade containing no added sugar; they also introduced a new tonic called Protein-Food.—(19) WM. GAYMER AND SON, LTD. (Attleborough, Norfolk), dispensed cider to well over 3000 visitors and introduced two new dry brands: Gaymer Dry and Gaysec.—(95, 96, 109) GLAXO LABORATORIES (56, Osnaburgh-street, N.W.) presented Sunshine Glaxo, their humanised sterile milk food, containing "Ostelin" vitamin D; Full-Cream Glaxo, which has the fat and protein content of cow's milk; and Farex, a pre-cooked cereal food rich in proteins, carbohydrates, vitamins,

and minerals.—(163) GRANOSE FOODS, LTD. (Watford), handed samples of their Granose biscuits, which contain vitamins and mineral salts, and stressed the value of their Granovita gluten bread, a palatable and nourishing product free from yeast and baking powder and containing exceptionally little carbohydrate.—(72) HEUDEBERT DIETETIC PRODUCTS (124, Victoria-street, S.W.) showed their palatable preparations for amylaceous dyspepsia, in which the starches are dextrinised, and of which the calorie value is 120 in the case of the Gressins and 122 per ounce for Biscottes. These preparations are also recommended for obesity.—(108) HOVIS, LTD. (London), had an exhibit showing the process of turning wheat into flour and demonstrating the value of the wheat germ.—(112) INGRAM AND ROYLE, LTD. (45, Belvedere-road, S.E.), had their familiar Contrexéville-Pavillon, Vichy, water, and Hunyadi Janos, and introduced a new radium water, Caria, from Portugal, which is said to be more stable than others of its class.—(49) KEEN, ROBINSON AND CO., LTD. (Carrow Works, Norwich), drew attention to a reduction in price in their synthetic food, Almata, and distributed refreshing drinks of Robinson's patent barley water. They stressed the value of their mustard ointment, a new packing designed to make the stimulant action of mustard available in a form easy to use. It can be applied directly as a poultice or rubbed in.—(146) THE MARMITE FOOD EXTRACT CO., LTD. (Walsingham House, Seething-lane, E.C.), offered drinks and sandwiches of their well-known preparation, and drew attention to a new medical booklet, which sets forth indications for the use of Marmite in vitamin B and hæmopoietic therapeusis.—(68, 69) NESTLÉ AND ANGLO-SWISS CONDENSED MILK CO. (6–8, Eastcheap, E.C.), on an attractive blue and white stand, presented their Lactogen dried milk food, milk and cream, and a new acid butter milk for cases of diarrhœa, Eledon.—(73) OXO, LTD. (Thames House, Queen-street-place, E.C.), presented their well-known beef extracts.—(50) PHILLIPS YEAST PRODUCTS, LTD. (Park Royal-road, N.W.), offered a microscopic demonstration that the yeast in their product is alive, and claim that the living cell has a much greater action than a dead one. The vitamin B_1 potency of their product has been estimated to be 40 international units per gramme.—(136) SISTER LAURA'S INFANT AND INVALID FOOD CO., LTD. (Springfield Works, Bishopbriggs, Glasgow), introduced Zomogen, a liquid restorative food for anæmia and general debility; it contains no metallic iron.—(126–130) TRUFOOD, LTD. (26, St. Martin's-le-Grand, E.C.), were familiar exhibitors, with humanised Trufood; Trufood Full Cream; and Secway for digestive disorders.—(125) VIROL, LTD. (Hanger-lane, Ealing, W.), offered their well-tried products Virol, Virol and Milk, and Virolax.—(80) VITALIA, LTD. (11, Springfield, Upper Clapton, E.), presented the meat juice which bears this name, and offered invigorating draughts to those who were exhausted.—(85) VITAMINS, LTD. (23, Upper Mall, W.), purveyors of Bemax vitamin B, introduced Fertilol oil of wheat germ, a preparation of vitamin E for sterility and habitual miscarriages.—(89) VITMAR, LTD. (Southfields, S.W.), besides their vitamin preparations, offered a cheerful Christmas prospect for diabetics in the form of mince pies, mincemeat, Christmas pudding, and Christmas cake free from sugar.

(To be concluded)

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED OCT. 13TH, 1934

Notifications.—The following cases of infectious disease were notified during the week: Small-pox, 1 (Hackney); scarlet fever, 3509; diphtheria, 1610; enteric fever, 29; acute pneumonia (primary or influenzal), 552; puerperal fever, 42; puerperal pyrexia, 124; cerebro-spinal fever, 15; acute poliomyelitis, 25; acute polio-encephalitis, 4; encephalitis lethargica, 10; dysentery, 21; ophthalmia neonatorum, 85. No case of cholera, plague, or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council on Oct. 22nd–23rd was as follows: Small-pox, 0; scarlet fever, 1779; diphtheria, 1709; measles, 204; whooping-cough, 188; puerperal fever, 24 mothers (plus 13 babies); encephalitis lethargica, 269; poliomyelitis, 9; "other diseases," 294. At St. Margaret's Hospital there were 18 babies (plus 12 mothers) with ophthalmia neonatorum.

Deaths.—In 121 great towns, including London, there was no death from small-pox or enteric fever, 3 (1) from measles, 3 (0) from scarlet fever, 10 (1) from whooping-cough, 49 (9) from diphtheria, 52 (14) from diarrhœa and enteritis under two years, and 21 (3) from influenza. The figures in parentheses are those for London itself.

Leeds reported 5 of the deaths from diphtheria, Birmingham, 4. Liverpool 3, Ilford, Bournemouth, Bootle, Sheffield each 2. Of the deaths from diarrhœa, 8 occurred at Leeds, 5 at Birmingham, 4 at Stoke-on-Trent, 3 each at West Ham and Liverpool.

The number of stillbirths notified during the week was 236 (corresponding to a rate of 37 per 1000 total births), including 39 in London.

THE MISSION TO LEPERS

THE Diamond Jubilee meeting of this international Mission was held on Friday, Oct. 5th, at Kingsway Hall, W.C., when lantern views displaying aspects of leper work were shown by Mr. Walter B. Elliott, the Secretary for England. Lord Meston, who presided over the afternoon meeting, delivered an informing address, and Prof. A. Carless, who presided in the evening, further commended the movement to the public. The Mission was founded in 1874 by Mr. Wellesley C. Bailey, then a young missionary in India, and at the age of 87 he remains honorary superintendent of the Mission. The story of the movement has now been published in a short book entitled "Sixty Years of Service" (1s. net, 7, Bloomsbury-square, London, W.C.), in which the secretary of the British Empire Leprosy Relief Association, Dr. Robert Cochrane, describes in detail the work that is being done. He pays here a warm tribute to the work of Sir Leonard Rogers and Dr. Herser, as a result of whose energy the Mission has been able to institute a comprehensive policy and to organise methods of prevention. The efficacy of preventive measures is now being generally recognised, for it will be noted that, previous to her departure for Jamaica, Lady Denham, the wife of the Governor-Designate of Jamaica, at a meeting of the Empire Social Services Group of the Royal Empire Society, outlined the procedure now being adopted in British Guiana, describing the building of a home for the children of leprous parents as a valuable piece of prophylaxis. Sir Leonard Rogers at the same meeting suggested that the care of the children might be the key to the whole problem of leprosy, for children, while most susceptible to disease, could, in the vast majority of cases, be cured if they came under treatment in the early stages.

COMMEMORATION SERVICE AT KING'S COLLEGE HOSPITAL.—It is 21 years since this hospital removed to its present quarters in South London. A commemoration service was held last week in the Church of St. Clement Danes, at which the acting Lord Mayor and Lady Patricia Ramsay were present and the Archbishop of Canterbury preached. The entire staff of the hospital, including its chairman, Lord Beatty, and the managing committee of King's College, walked in procession from Australia House to the Church, followed five minutes later by a civic procession including the mayors of five metropolitan boroughs, members of parliament and of the L.C.C. The Bishops of London, Gloucester, and Southwark were also present. The annual expenditure of the hospital has risen during the last 21 years from £22,500 to £104,000, but the mortgage of £80,000 raised to carry on the work during the war has been reduced to £57,000. The next step in the completion of the hospital is the addition of a final side to the administrative block, forming the nurses' home, at a cost of £25,000.

CORRESPONDENCE

COLLES'S FRACTURE

To the Editor of THE LANCET

SIR,—Mr. G. O. Tippett in your issue of Oct. 13th plaintively but rightly asks "why must these fractures be still subjected to the much vaunted but dangerous early massage and movements." He refers to the recurrence of posterior displacement in cases where the break is transverse and not oblique, this catastrophe usually occurring in the third week. He points out that impaction is less marked than in the oblique variety, and that in the third week osteogenetic tissue being friable it is readily snapped by excessive zeal in massage or movements. May I add that I believe that displacement at this time is encouraged by massage and movements because by discouraging immobilisation they have led to hyperæmia at the fractured surfaces. Now Greig [1] and Watson Jones and Roberts [2] have proved that hyperæmia of bone causes rarefaction, decalcification, and osteoporosis. A very specific example of this is seen in fractures of the carpal scaphoid, where in badly immobilised cases the original linear crack rapidly becomes a wide cyst-like separation. Such a phenomenon occurring at the site of Colles's fracture readily allows separation, disimpaction, and recurrence of deformity. Brailsford [3] believes that this cyst-like space is caused by pressure on cancellous bone of serous fluid pouring into the hæmorrhage which has occurred between the fragments.

Why then do so many surgeons persist in a foolish reference of these fractures to massage departments for early movements in the face of such pathological argument? If only adequate immobilisation by the dorsal plaster cast as advocated by Böhler,[4] Harry Platt, and Watson Jones, combined with immediate use of normal active movements, be employed, recurrence of deformity will not occur, ultimate function of the wrist will be excellent, the fracture will unite more rapidly, and the patient and the hospital saved the time and money that is spent on dangerous and unnecessary massage.

Having absorbed the pernicious doctrine as a student that Colles's fracture after reduction should be sent at once for massage, I suffered bitter disappointment in many cases which I caused to be treated in such a way. Since adopting the posterior plaster slab method I have been delighted with the results. I now teach that the Carr's splint is dangerous since it fails to control the fractures and indeed tends to force the lower fragment upwards and backwards thereby encouraging a recurrence of the original deformity; moreover, it prevents the adequate performance of active finger movements. The long posterior splint with the short anterior one is a little better, but not much, especially when they are removed daily for massage; with the application of a well-moulded, unpadded posterior plaster, adequate immobilisation is provided, hyperæmia is not produced because movements between the fractured surfaces are prevented, thereby reducing reparative inflammation to a minimum; at the same time active movements are possible.

It remains to treat the patient and to teach him to help and cure himself. As soon as the plaster is set he must put on his coat unaided and light his first cigarette with his two hands: he is told that he must eat his meals like any civilised person with a knife and fork and use the hand as much as possible. No sling is allowed on any account. In five weeks the cast is removed, and if union is firm and painless he is allowed to go free.

Mr. Watson Jones has taught me that the only three requirements in fracture treatment are careful reposition of fragments, adequate immobilisation until union is firm and painless, and active functional movements. These cannot be obtained in the best massage department in the world, but depend entirely on painstaking effort on the part of the surgeon and the enthusiastic coöperation of the patient. The athlete can never attain proficiency by having his muscles and tendons massaged and moved for him: he must work at them intelligently and diligently: the man with the fracture must imitate him.

I am, Sir, yours faithfully,

A. L. D'ABREU.

Surgical Unit, Welsh National School of Medicine, Royal Infirmary, Cardiff, Oct. 16th.

[1] Greig, D. M.: Surgical Pathology of Bone, Edinburgh, 1931, p. 7.
[2] Jones, R. W., and Roberts, R. E.: Brit. Jour. Surg., 1934, xxi. 461.
[3] Brailsford, J. F.: Radiology of Bones and Joints, London, 1934, p. 38.
[4] Böhler, L.: Treatment of Fractures. Translated by Steinberg. Vienna, 1930, p. 92.

DIATHERMY IN CANCER

To the Editor of THE LANCET

SIR,—The articles by Mr. Norman Patterson on the use of the diathermy knife in malignant disease are of interest not only to surgeons who specialise in throat and nose work but also to general surgeons who, like myself, have frequently to treat cases of malignant disease occurring in and around the mouth. I wish one of your readers who has concentrated experience on the subject would publish the results of treatment by diathermy of malignant disease of the lips. This is a lesion frequently met with in this country and the results of the older excision methods leave much room for improvement. Most of the patients are elderly men on whom a complete excision of a large area followed by some sort of plastic operation is neither feasible nor practicable. A few cases on whom I used diathermy coagulation with the button electrode over three years ago are free from recurrence to-day—I am referring to cases without glandular enlargement at the time of operation. In cases with a small lesion I make a V-shaped incision with a fine needle electrode, which gives a cleaner wound than the knife electrode and heals rapidly. Sodium evipan anæsthesia is quite satisfactory for the majority of these cases. For patients able to stand a long operation I do a dissection of the submental, submaxillary and upper cervical glands on both sides of the neck about a fortnight after the removal of the primary lesion, that is, if the glands are not palpable in the beginning; if the glands are palpable and the case is not too far advanced I reverse this procedure. The time required for the operation is greatly reduced by the use of diathermy current.

As regards carcinoma of the anterior half of the tongue and floor of the mouth, I consider that the operations hitherto practised by means of cold steel for these conditions, and which are so beautifully described in text-books of operative surgery, should be relegated to a place of historical interest—they are in my opinion a mutilating procedure in which the end does not usually justify the means. As a result of impressions formed in different operating theatres in my student days I have never treated or attempted

to treat these cases by means of ordinary cutting or sawing operations. During the period 1926–30 I referred all cases of malignant disease of the tongue and of floor of the mouth for radium treatment. I regret I am not conversant with the present-day statistics of the exponents of this method of treatment, but I have practical knowledge of the end-results of a large number of such cases treated by radium. It was these results which prompted me to treat them with diathermy on the lines indicated by Mr. Patterson. While it would be premature to give an opinion on the full merits of diathermy treatment from my own practice, I can definitely state that the results appear in every way superior to radium, and that we have in the modern diathermy machine one of the greatest adjuncts to modern surgery.

I am, Sir, yours faithfully,

J. F. O'CONNOR, F.R.C.S.I.

County Hospital, Croom, Oct. 20th.

FRESH MILK

To the Editor of THE LANCET

SIR,—As a physician and child-student of more years than I care to count, I should like to ask anyone who reads these few lines: Do you know, or do you know anybody who does know, a cleaner food than milk? Filthy as milk may be, it is the cleanest food at our disposal. Milk is not a national food only, but a universal one for the mammalia. Fresh milk, that is, not preserved or in any way tampered with, even by the glorified orange juice—which is, by the way, so indigestible that it makes many adults with strong stomachs suffer. The breeder of prize animals does not use preserved milk. Children have been said to suffer from intestinal and bone tuberculosis due to taking tuberculous milk. It would be interesting to know the life-history of one of these children, together with the amount of milk taken, because the alleged cases I have seen have had a bad history. "Most children," says a magazine writer, "love tomatoes but hate milk." I know this type of children well, and the subsequent history of many of them is disastrous. Infant and school clinics help them a great deal, but they are enfeebled old men and women long before they are 30. Has the medical man who advises preserved milk forgotten a once notorious disease known as scurvy rickets?—I am, Sir, yours faithfully,

C. F. W. COURTENAY-DUNN.

Torquay, Oct. 22nd.

"AN OLD PROBLEM SOLVED"

To the Editor of THE LANCET

SIR,—On seeing the annotation under this title in your issue of Sept. 22nd (p. 664) I sent immediately to Dr. Klaare, secretary of the "Tub. Bücherei," my reply to Dr. Wolter's totally incorrect statements. But Klaare has for various reasons refused the publication of the reply. How important are the successes at Pesterzsébet in the fight against consumption is shown by the fact that Prof. Téchoueyres, delegated by the city of Reims, and Dr. Roesle, delegated by the German Board of Health, were astonished at the results. In his official report (Arch. f. Soc. Hyg. u. Dem., 1933, No. 1) Dr. Roesle made the important proposal that the material of Pesterzsébet should be examined, clinically and statistically, by an international committee. The results of Pesterzsébet are year by year greater, and that gives me the force to continue to fight for the truth in the Friedmann problem. I am, Sir, yours faithfully,

Budapest, Oct. 16th. DR. SZAI AI.

UVEO-PAROTID TUBERCULOSIS?

To the Editor of THE LANCET

SIR,—In spite of Dr. Garland's letter in your issue of Oct. 13th I am unable to share his conviction as to the tuberculous nature of uveo-parotitis. I hasten to admit the inadequacy of the investigation to the exclusion of tuberculosis in the case I reported, yet the man remained in his usual health without loss of weight more than two years after the onset of his symptoms, and moreover gives negative family history.

I have since looked up the notes of a second typical case in which generalised adenitis was a prominent feature. The histology of an excised lymphatic gland conformed with the now accepted picture of tuberculous giant-cell systems; yet neither the clinical nor the X ray examination suggested pulmonary tuberculosis. The uveitis could not be said to be characteristic of tuberculosis in the absence of iris nodules. The blood picture was normal, and the Mantoux reaction negative. His family history was also negative. When last heard of six months ago he was fit and well, three and a half years after the symptoms commenced.

I am, Sir, yours faithfully,

Harley-street, W., Oct. 22nd. C. B. V. TAIT.

DEATH UNDELIVERED

To the Editor of THE LANCET

SIR,—Consideration of a case reported on p. 597 of your issue of Sept. 15th prompts a query as to whether it is correct procedure to allow a woman in labour to die undelivered. In this case one hundred hours had elapsed between induction of labour and the fatal ending, but no evidence is given that the child was dead—at all events that it was known to be dead—before the death of the mother. Post-mortem examination it is true showed that the fœtus was commencing to peel, but it was not beforehand known that such autolysis had occurred. What was there in this case to hinder the performance of Cæsarean section as soon as the women ceased to live, in the hope—even if such hope were not large—of saving a living child?

I am, Sir, yours faithfully,

Manchester, Oct. 17th. W. J. RUTHERFURD.

CORRECTION OF MEDICAL REGISTER

To the Editor of THE LANCET

SIR,—I am desired by the returning officer to say that voting papers for the purpose of the forthcoming election of a direct representative to the General Medical Council were issued on Oct. 23rd to all registered medical practitioners having registered addresses in England and Wales; and that the authorities of the council would be glad if every such practitioner who has not received a voting paper would communicate immediately with the office of the Council (44, Hallam-street, London, W.1), *whether or not he proposes to vote in the election*, in order to ascertain that his address is correctly entered in the Medical Register.

I am, Sir, yours faithfully,

MICHAEL HESELTINE,

Oct. 24th. Registrar, General Medical Council.

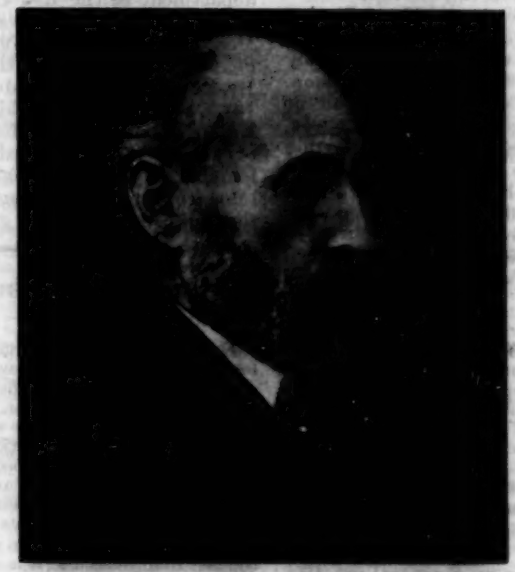
SHEFFIELD CITY GENERAL HOSPITAL.—Five new blocks comprising operating theatre, maternity and casualty blocks, and a nursing-home were opened at this hospital by Sir Hilton Young, the Minister of Health, last week.

OBITUARY

S. RAMÓN Y CAJAL

WITH Santiago Ramón y Cajal there passes one of the great pioneers of science. To most medical men in this country his name means little more than an association with methods for staining the nervous system with silver and gold. But in Spain all men, even the peasants, who understood nothing of his scientific achievements, revered the name of Don Santiago. For Cajal in addition to being a great scientist was a great man.

Born in 1852, the son of a country doctor, Ramón y Cajal appeared to be predestined for the study of histology. His father eventually, by economy and hard work, became professor of anatomy at the University of Zaragoza, and it was there that Cajal's medical studies began. For three years he worked with his father illustrating with beautiful sketches an atlas of anatomy which unfortunately was never published. A severe attack of malaria in Cuba, during the period of military service which followed his graduation, nearly ended his career. But this illness contributed to his scientific work, as with his arrears of pay he was able to buy a microtome and microscope, the first that had been brought to his university. Thenceforward, except for periods of ill-health, his career was an unbroken record of achievement. Professor of anatomy at the University of Valencia at the age of 29, he passed by way of Barcelona to the chair of Histology and Pathological Anatomy in Madrid in 1892, and continued his work there for 30 years.



RAMÓN Y CAJAL

In 1894 he obtained his first important international recognition. He came to London to deliver the Croonian lectures before the Royal Society, and was elected Fellow of the Society. This tribute to Cajal had its origin in a suggestion made by Sir Charles Sherrington to Michael Foster, then the all-influential secretary of the Society. Foster welcomed the idea, and the invitation to Cajal was issued and accepted, and Cajal became Sherrington's guest on the occasion. A humorous episode occurred during his visit, for Cajal locked his bedroom door and took the key away while he was out. His hostess later getting access to the room found that he had transformed the room into a little laboratory, various apparatus being dotted about it as he had been conducting in seclusion some final experiments. In 1906 he was given half the Nobel prize for his contributions to medical science. Recognition at home came more slowly as scientific achievement was foreign to the Spanish culture. But his foreign honours drew attention to him, and his wisdom and prophetic vision in educational and political affairs soon made his name honoured throughout Spain. He was made Life Senator and, on his retirement from the chair of Histology, a fine laboratory, El Instituto Cajal, was built in his honour.

To English-speaking histologists he has been known best from his great book, "Textura del Sistema Nervioso del Hombre y Vertebrados," which appeared in Spanish between the years 1897 and 1904, and was brought up to date in the French edition of 1909. After 25 years this remains the most complete and accurate description of the finer structure of the nervous system, the reference book to which the research worker most often turns, and from which many descriptions in modern text-books are transcribed almost verbatim. The recent English translations of his book on "Degeneration and Regeneration in the Nervous System," and of his text-book of "Histology" (the first edition of which he wrote for his students in 1889) have shown us how far his interests ranged beyond the normal histology of the nervous system. The "Travaux du laboratoire de récherches biologiques de l'Université de Madrid," in which he has published his own researches and those of his associates since 1901, is further evidence of this. It was his great regret that so many of his writings and those of his pupils were ignored by the scientific world owing to difficulties of language, and he set himself to remedy this by editing his "Travaux" in French and superintending the translation of his more important books. But his greatest monument is perhaps the rebirth of scientific education in Spain. Where he found stagnation and a complete lack of interest in science he has left active universities and a modern outlook. A true son of Spain and the most modest of men, his chief, perhaps his only, interest in the honours which he received was that, through him, Spain was honoured. It should be added that Cajal once expressed to an English friend his belief that in the early days of the war the King of Spain and himself were the only two Spaniards in sympathy with the British intervention, and throughout his life Cajal manifested himself always a staunch friend of this country.

GEORGE ALEXANDER FREDERICK HEYWORTH, M.B., B.Ch. Cantab.

THE recent death of Dr. Heyworth, of Belper, occurred in particularly tragic circumstances. He was playing in a hockey match between Belper and Beeston at Nottingham, and suddenly collapsed and died while being conveyed from the field to the hospital. The game was his principal sport, and for it he had gained his blue at Cambridge. Ill-health had kept him out of matches in the previous year, but he seemed to have entirely recovered when he again took up the game.

George Alexander Frederick Heyworth was a Liverpool man, was educated at Rugby and Trinity College, Cambridge, and graduated in arts before entering the medical profession. He received his clinical training at the London Hospital, and took the English double diploma in 1909 and his Cambridge medical degree some years later. After holding resident appointments he went into partnership in 1909 in a general practice in Belper. He joined up on the outbreak of war and served in Belgium, and later for two years in Mesopotamia with the rank of captain in the R.A.M.C. On his return to practice he manifested particular interest in the St. John Ambulance Association and also in many religious organisations, being superintendent of the Sunday School connected with St. Peter's Church, Belper, a member of the Parochial Church Council, and leader of the missionary work in the district.

Dr. P. H. Manson-Bahr sends us the following tribute to the memory of a dead friend: "Dr. George Heyworth, of Belper, who died so tragically on Sept. 29th, was a lifelong friend and companion. As relatives and friends we spent our boyhood at Rugby School, our student days at Trinity College, Cambridge, and graduated together at the London Hospital. There are few who lived a cleaner, more manly and Christian-like life than George Heyworth. A great sportsman and a good loyal friend, he has been taken away at the prime of his career. There is one consolation—that he died, as he would have wished to, suddenly, and whilst at the height of his activities."

JOHN GARDINER, B.A. Oxon., M.R.C.S. Eng., L.R.C.P. Lond.

Dr. John Gardiner, a well-known practitioner in north Oxford, died on Oct. 8th at the Acland Nursing Home from heart trouble. Dr. Gardiner was a native of Maidstone and graduated in arts with honours at Oxford, proceeding with an entrance exhibition for his medical studies to the Middlesex Hospital. After obtaining the double English diplomas, he did not proceed with his medical course at Oxford, but came for family reasons to take up a general practice in the city. Here he had a large connexion, for many years was chief physician to the Cutler Boulter Dispensary, and during the war did some valuable work while in charge of the malarial diseases department in Oxford. Dr. Gardiner had retired from practice through ill-health following a severe operation.

THOMAS HORTON, M.D. Durh., M.R.C.S. Eng.

WE regret to announce the death on Oct. 10th at Weymouth of Dr. Thomas Horton in his seventy-ninth year. Dr. Horton was trained as a pharmaceutical chemist, but at the late age of 35 he went to Durham College of Medicine and received his medical training at Newcastle. Two years later he entered University College Hospital, London. He qualified M.R.C.S. Eng., L.R.C.P. Lond., in 1894, and graduated M.B. (with honours), B.S., at Durham University in the same year. He took his M.D. in 1896. He was Tulloch and Armstrong scholar at Durham University and gold medallist and Erichsen prizeman at University College Hospital. He practised successfully at Torquay for over 20 years, and was honorary surgeon to the Torbay Hospital and honorary physician to the Western Hospital for Consumption.

After his retirement he devoted himself to voluntary work for the Baptist Missionary Society, being successively chairman of the medical committee and chairman of the general committee of that society. His younger son was killed in the Great War. He is survived by one daughter and one son who is in surgical practice at Weymouth.

PROF. V. N. ROZANOV

Prof. Rozanov, who died on Oct. 16th after a brief illness, was one of the foremost Soviet surgeons. Born in 1872, he graduated in medicine at Moscow University in 1896 with distinction. He was in charge later of the surgical department of the Botkin Hospital in Moscow, and before the war and the revolution was a teacher of medicine in the Peoples University. After the revolution he was one of the earliest medical men to come to the assistance of the Soviet Government, working in the medical department of the Red Cross and the Kremlin Hospital. In 1929–30 he was elected a member of the Moscow Soviet, and in 1930 was appointed a member of the directorate of the Commissariat of Public Health. He was awarded the Order of Lenin in 1933, a distinction to which he had a personal claim, having attended Lenin for a bullet wound, the result of an attempted assassination. Rozanov was the founder of the journal *Sovremennaya Khirurgia* (Modern Surgery), and on account of his outstanding services to surgery he is given a State funeral.

BIRMINGHAM HOSPITALS CENTRE

On Tuesday morning the Prince of Wales laid the foundation-stone of the new Birmingham hospitals centre at Edgbaston, and cut the first sod on the site of the medical school which is an essential part of the scheme. The first instalment of the scheme thus inaugurated, with the expectation of completion within three years, includes a general hospital of 500 beds with auxiliary and ancillary services, a nurses' home and the new school buildings. Paying patients, out-patient department, and a further 250 general beds will have to wait until more spacious times. The enormous sum of £735,000 has been raised in the last four years and it is not unreasonable to hope that the additional £250,000 required to complete this instalment will be forthcoming in time for it to be opened free of debt in October 1937. The hospital is being organised in units of 60 beds, each complete in itself. Of each 60 beds 30 will be for women and 30 for men, made up of one ward of 16 beds, two wards of 4 beds, and three wards of 2 beds. The largest ward will therefore contain only 16 beds. Provision is being made to allow of at least one-fifth of the patients receiving open-air treatment. Already laid out are the main roads across the site, which are a gift from the city corporation, the framework of the nurses' home is beginning to be bricked in, most of the steelwork of the administration block is up, while excavation for the south ward blocks is well in hand. The site of 150 acres, of which 100 are reserved solely for hospital purposes, should be sufficient to provide scope for any hospital development in Birmingham over a period of at least fifty years.

ENLARGEMENT OF LEEDS HOSPITAL FOR WOMEN.—A new ground floor is being excavated at this hospital to provide a better out-patients' department. The cost will be £12,000, which, for the present, will be provided by the sale of investments. The department will include 12 dressing cubicles, four examination rooms, two consulting rooms, and other accommodation. The old out-patients' department will be converted into three new wards containing 25 beds. The extension has been made necessary by a waiting list which has grown to four times the existing accommodation. Most of the patients remain from two to four months.

MEDICAL NEWS

University of Oxford

On Oct. 18th the degree of bachelor of medicine was conferred on G. H. Buck, J. P. Dewsbury, C. M. Vaillant, and A. B. Stokes.

University of Cambridge

Prof. E. B. Verney, Sheild reader in pharmacology in the University, has been elected into a professorial fellowship at Downing College, and Dr. Frank Goldby, university demonstrator in anatomy, has been elected into a fellowship at Queen's College.

On Oct. 19th the following degrees were conferred:—

B.Chir.—M. A. Rugg-Gunn, T. V. Tattersall, and A. R. R. Mears (by proxy); and G. T. Hindley.

University of London

On Nov. 6th, 8th, and 9th Dr. Knud Faber, professor of medicine in the University of Copenhagen, will give three lectures entitled Newer Aspects of Gastritis and its Consequences. The lectures will be held in Guy's Hospital medical school at 5 P.M. and Dr. Arthur Hurst will take the chair at the first. All interested in the subject are invited to attend.

University of Wales

At recent examinations the following were successful:—

D.P.H.

Part II.—K. J. Grant, T. M. A. Lewis, J. C. R. Morgan, E. S. G. Owen, and Jean J. Smith.

Royal College of Surgeons of Edinburgh

At a meeting of the College held on Oct. 16th, with Dr. A. H. H. Sinclair, the president, in the chair, the following candidates who have passed the requisite examinations were admitted as Fellows:—

Francis Bartholomew, M.R.C.S. Eng.; Bernard William Franklin Bishop, M.B. Cape Town; Edmond Bourke, M.B. Irel.; James Johnston Mason Brown, M.B. Edin.; Alistair John Cameron, M.B. Edin.; Hugh Franklin Cameron, M.D. Manitoba; Joseph Ellis Ellison, M.B. Dub.; John Gerrie, M.B. Aberd.; Ramendra Nath Ghosh, M.B. Calcutta; Eric James Dow Gillespie, M.B. Edin.; Harry Raphael Goldberg, M.B. Edin.; Sidney Wilfred Grimwade, M.B. Lond.; George Clifton Halliday, Ch.M. Sydney; Ronald William Grant Kelly, M.B. Sydney; Archibald Brown Kerr, M.B. Glasg.; William Douglas Macfarlane, M.B. Glasg.; Charles Warwick McVicar, M.D. Manitoba; Arthur Middlemas Marshall, M.D. Dalhousie; George Gordon Mowat, M.R.C.S. Eng.; David Nicoll Wilson, M.B. Glasg.; and Evan Cameron Wynne-Edwards, M.B. Camb.

University of Glasgow

On Oct. 20th the following degrees were conferred:—

M.D.—W. S. L. McLeish and Clark Nicholson (with commendation); Elizabeth J. Findlay, D. P. Leiper, and John Riddell.

M.B., Ch.B.—R. C. Elitzik, E. M. Rappaport, and J. D. O. Kerr (with honours); Martin Lazarowitz, Stanley Smith, Hunter Gillies, J. H. Hutchison, Benjamin Joseph, A. B. Semple, C. L. Elder, David Gersten, Gertrude I. R. Tannahill, R. W. Carslaw, R. McI. Millen, Charles Slutsky, David Ferguson, J. D. Fulton, Duncan Livingstone, and E. L. Nicolson (with commendation); R. H. Adam, G. H. Aitken, Eleanor M. Alexander, W. J. Barclay, James Black, Ronald Black, W. M. Borthwick, J. F. D. Boyd, D. B. Brown, James Brown, G. G. Browning, J. N. M. Chalmers, Janet M. S. Clark, G. B. M. Clarke, N. P. R. Clyde, M. X. Colby, G. C. Cooper, J. E. Craik, J. F. Diamond, D. O. Dickie, David Douglas, R. J. Eadie, Sarah G. Fee, Irwin Felsen, A. G. Fergusson, J. D. Finlayson, R. E. Fletcher, S. L. Frank, N. A. Freebairn, L. D. Gardner, Helen M. Gibb, G. C. Gordon, J. M. Graham, J. R. Hendry, Agnes B. Herbert, James Hodge, John Hughes, George Hunter, Alexander Hutchison, J. S. Jackson, Alexander Leitch, Meyer Levinson, William Love, A. D. Lynch, A. F. McDonald, James Macdonald, J. A. MacDougall, J. S. L. McGibbon, Ethelwyn M. McKendrick, Alan McKenzie, Roberta M. C. MacLean, James Macrae, William Mallinson, K. H. Martin, W. J. Moffat, Robin Murdoch, J. J. Murray, James Parker, Marion A. Pearson, Robert Pettigrew, J. D. Ramsay, J. D. Rankin, J. L. Rankin, J. A. Rankin, J. G. Roberts, J. B. McN. Runciman, Olive Scott, M. S. Segall, Ada M. Sewell, Helen S. C. Smith, Nathan Sragowitz, Jean W. Strang, D. F. Suttie, W. O. G. Taylor, R. A. Tennent, Arthur Thomson, William Thomson, J. J. Tillie, J. A. Weir, and J. B. Wilson.

Disabilities of Voluntary Hospitals

The Yorkshire regional committee of the British Hospitals' Association intends to have attention called in the House of Commons to the heavy increase in the cost of milk as fixed by the Milk Marketing Board. Leeds Infirmary, the largest hospital in Yorkshire, has had its milk bill of £2000 a year increased by 25 per cent. The committee has also passed a resolution asking for the relief of voluntary hospitals from rates which cost Leeds Infirmary nearly £1000 a year.

Society of Apothecaries of London

The Gillson scholarship which is awarded for the encouragement of original research in pathology is open to licentiates of this society. Particulars will be found in our advertisement columns.

At recent examinations the following were successful:—

Surgery.—T. D. R. Aubrey, Univ. of Oxford and Bristol Royal Infirmary; G. A. Bell and W. McC. Graves-Morris, Guy's Hosp.; D. W. Hoodless, Charing Cross Hosp.; A. Lassman, Univ. of Manchester; and A. G. Manley, St. Mary's Hosp.

Medicine.—J. W. D. Bull, Univ. of Cambridge and St. George's Hosp.; F. M. Kerry, Univ. of Durham; and J. A. McClintock, King's Coll. Hosp.

Forensic Medicine.—G. A. Bell, Guy's Hosp.; J. A. Carter, Univ. of Cambridge and London Hosp.; W. McC. Graves-Morris, Guy's Hosp.; C. C. Joannides, Univ. of Graz and Westminster Hosp.; O. C. John, Univ. of Manchester; J. C. Paterson, Univ. of Oxford and St. George's Hosp.; and D. Rocyn-Jones, Welsh National School of Medicine, Cardiff.

Midwifery.—J. H. Bentley and N. Bickford, Univ. of Cambridge and Middlesex Hosp.; R. Fleming, Univ. of Geneva and London Hosp.; C. McK. Johnston, King's Coll. Hosp.; H. N. Levitt, Guy's Hosp.; A. Ponder, Univ. of Cambridge and Guy's Hosp.; and R. C. Sen, Univ. Coll. Hosp.

The following candidates, having completed the final examination, are granted the diploma of the society entitling them to practise medicine, surgery and midwifery: T. D. R. Aubrey, G. A. Bell, R. Fleming, A. G. Manley, and J. A. McClintock.

The London Hospital Dinner

In proposing the toast of the London Hospital at the old students' dinner at the Trocadero on Oct. 18th, Dr. James Thomas, the chairman, said that mistakes in practice, comparatively speaking, did not matter; what mattered was any hint of charlatanism within the profession. It has been difficult for anyone to be a charlatan after training at a hospital whose senior physician was Dr. Robert Hutchison, and though Dr. Hutchison—one of the great physicians of his time—had now left the active staff his personality would remain in its tradition. In another of its departments the hospital had lost, by the retirement of Prof. William Bulloch, the personification of honest science and a man bubbling with humour. Dr. Thomas spoke also of losses by death within the year, naming Rampley, Henderson Whyte, George Jones, and Frank Kidd. In the corporate life of the hospital the establishment of the students' hostel had marked an epoch, while in the scope of its work the block for paying patients—made possible by Lord Woolavington's gift of £10,000—meant another big advance. The outstanding feature of the London, he felt, was that it made even the most careless man aware of the need for humanity. As for the advance of science, Dr. Thomas contented himself and his hearers with a Latin adage, applicable to current obstetrics: "Femina partur et. Stet judex ridiculus mus," which he translated as: "Is the lady in the family way? Damned if *I* know. Ask the mouse." Dr. Russell Andrews, in proposing the chairman's heath, described his experiences at Primrose League and other meetings in Sussex where his merits as a speaker seem to be less fully recognised than they are at the London. He recalled a song sung by Dr. Thomas long ago with the clinically immoral refrain, "Sending the ruptured tubes away, with an adequate dose of Dover," and went on to say something of Dr. Thomas's fine service as surgical specialist at a casualty clearing station—service still spoken of, he found, as far away as Winnipeg. Leaving the war as lieutenant-colonel and with a D.S.O. the chairman had eschewed surgery in favour of his general practice, and had won in it the success the deserved. After the health had been drunk with much enthusiasm Dr. Thomas said: "You have been in labour with me long enough, and I with you," and the proceedings ended in conversation—light or heavy according to taste, temperament, and cerebration.

University College Hospital

In connexion with the centenary of this hospital, which is being celebrated this year, an attempt is being made to raise £100,000 for the extension of the infant welfare and antenatal departments.

Royal College of Physicians of Ireland

The annual meeting of the president and fellows was held in the college hall on St. Luke's Day. Dr. John Agar Matson, a fellow since 1904, was unanimously elected president. The following bursars were elected: in medicine, Dr. W. Boxwell and Dr. J. F. O'Donnell; in midwifery, Dr. B. Solomons; in medical jurisprudence, Dr. R. H. Micks. The president nominated Dr. Boxwell as vice-president. In the evening the annual dinner was held, when some 85 fellows and guests were present. Among the latter were the Lord Mayor of Dublin, the provost of Trinity College, the Archdeacon of Dublin, the president of the Royal College of Surgeons in Ireland, the president of the Royal Academy of Medicine in Ireland, and Mr. Justice FitzGibbon, one of the visitors of the College.

A Golden Wedding

Sir William Arbuthnot Lane and Lady Lane were at home yesterday, Thursday, Oct. 25th, to a large number of personal friends. This was the date of his golden wedding, for on Oct. 25th, 1884, Sir William married Miss C. J. Briscoe. Apart from Sir Arbuthnot Lane's personal services to Guy's Hospital, the connexion of him and his wife with that institution is remarkably close, for Lady Lane's sister was the wife of Hilton Fagge, two names which are famous in the history of Guy's. The congratulations of his profession and his numerous friends will be extended warmly to Sir Arbuthnot and his wife.

British Institute of Philosophy

The lectures organised by the Institute commence on Thursday, Nov. 1st, and will be held also on the following three Thursdays in the month at 5 P.M. Prof. Langdon Brown opens the course with a lecture on the biology of social life, and is followed by Dr. William Brown (health, self-determination, and free-will); Dr. Emanuel Miller (creative activity and mental health); and Dr. Crichton-Miller (belief and adaptation). The general message of the four lectures is to stress the importance of a philosophy of life for mental health. Applications to attend the course should be made to the Director of Studies, British Institute of Philosophy, at University Hall, 14, Gordon-square, W.C.1. The fee is 12*s.* 6*d.*

Biochemical Society of Calcutta

This society was formally inaugurated on July 6th at the All India Institute of Hygiene, with the object of the promoting of biochemical studies and research. The following committee has now been elected: Prof. N. M. Basu, Lieut.-Colonel T. C. Boyd, Prof. S. Ghosh, Prof. J. N. Mukherjee, Dr. B. B. Sen, Prof. H. K. Sen, Prof. H. E. C. Wilson, with Dr. B. C. Guha (hon. sec.) and Dr. B. Ahmad (hon. treas.). At the four monthly meetings already held the following papers have been read: B. Ahmad: The metabolism of carotene. A. C. Roy: A purely vegetable medium for the cultivation of micro-organisms. S. L. Banerjee and H. K. Sen: The catalytic activation of diastase. A. R. Ghosh and B. C. Guha: Vitamin C in Indian foodstuffs. R. C. Bhattacharjee: Snake venom and its therapeutic applications.

Place of Osteopathy in Medicine

At a dinner held last Saturday at Claridge's Hotel, London, by the British Osteopathic Association, Dr. Alfred Cox, late medical secretary of the British Medical Association, replied to the toast of The Art of Healing proposed by Mr. P. J. Hannon, M.P. According to the *Times* of Oct. 22nd, Dr. Cox said it was the doctor's duty to see that the patient went where he could most benefit. "He would like to see incorporated all that was good in the theory of osteopathy—in the hands of those who not only knew what was good, but knew the risks—so that every medical man should be taught its practice; but that it should be practised only by those who had gone through the whole course of medical training, so that there should be no danger to the public." Dr. George Macdonald, proposing the guests, spoke of the B.O.A.'s ability, by scientific influences and humane methods, to give substantial assistance in the art of healing. Lord Snell, chairman of the London County Council, expressed his belief that it should be legally recognised in this country, and Sir Robert Stanton Woods, M.D., and the mayor of Marylebone, also replied for the guests.

Congress on Gout

A congress on gout and uric acid has been arranged by the Société de Médecin de Vittel, and will be held at Vittel from Sept. 15th to 16th, 1935. Sir William Willcox and Dr. A. P. Cawadias are on the committee and the secretary is Dr. Maurice Boigey of Vittel.

Richmond Hospital, Dublin

Dr. Harry Lee Parker, who has been appointed physician to the Richmond, Whitworth, and Hardwicke hospitals in room of the late Dr. F. C. Purser, has been for many years on the staff of the Mayo Clinic as associate in the section of neurology, and the title of assistant professor of neurology in the University of Minnesota.

A Tennis Cot

To commemorate the victories of Miss Dorothy Round in the women's singles and mixed doubles at Wimbledon in July last, the people of Dudley and the district have presented a cot bearing her name to the Guest Hospital, Dudley. The amount raised was £538.

Paying Patients at Manchester

Two years ago the board of Manchester Royal Infirmary appealed for £95,000 to provide a new block for paying patients. That sum has now been somewhat more than secured in loans and gifts, and building will shortly begin. Nearly a quarter of the money is in gifts, and there are 491 loans ranging from £10 to £2000, mainly at 4 per cent. interest.

Pontefract Infirmary

Lord Moynihan recently opened a new operating theatre and other extensions. This new block is the second of three schemes of improvement which will cost altogether £20,000. Lord Moynihan said he had carefully examined the operation records of Pontefract Infirmary, and he congratulated the surgeons on a record of success which would bear comparison with that of any of the large teaching hospitals in the country.

Mental Defect in Scotland

Mr. McKechnie, secretary of the Scottish Education Department, in a recent address, gave some figures of defect. From 1919 to 1933 the number of mental defectives in special schools and classes grew from 2322 to 4184, the number of physical defectives from 3389 to 5879—a plus of 80 and 73 per cent. respectively. They might take it, he said, that at least 1 per cent. of the population was mentally defective. As there were some 800,000 children in the schools, they would expect to find about 8000 children in the classes for mentally defectives. At present there were only half that number. While much progress had been made in certain counties, it was certain there were still many children in the ordinary school who ought to be in the special school, learning instead of having no opportunity to learn.

Presentations to Medical Practitioners

At a gathering of more than 600 people Dr. John Cowan Wilson, of Blantyre last month received a public testimonial in celebration of his jubilee as a medical practitioner in the town.—Dr. Robert Gemmell, who has retired after 35 years' practice in New Cumnock, has also received a testimonial, in the form of a silver quaich and a cheque, from his patients and fellow-citizens.—At a dinner held in Devizes on Sept. 22nd 80 members of the staff of the Wiltshire County Mental Hospital entertained Dr. S. J. Cole on his retirement after 32 years in that institution, for 20 of which he has been medical superintendent.—On Oct. 12th a complimentary dinner was given in Edinburgh to Dr. Isabel Venters, surgeon and gynæcologist to the Edinburgh Hospital for Women and Children. Mrs. Chalmers Watson, M.D., said that Dr. Venters was really the successor of the first woman who practised medicine in Edinburgh, Dr. Sophia Jex Blake, and had been foster-mother to Dr. Jex Blake's dearest children—her dispensary and hospital. Lady Ruth Balfour, M.B., who presided, described her as one of the pioneers among medical women, but Dr. Venters, in reply, disclaimed this title, saying that Dr. Elsie Inglis and she had been fortunate in coming to the study of medicine when the battle for the education of women had already been won.

A Glasgow Convalescent Home

Sir Harold Yarrow has offered Broomfield House and its grounds, together with trust funds whose present market value is about £10,000, to the Glasgow Royal Maternity and Women's Hospital, for a convalescent home in memory of Lady (Eda) Yarrow.

Memorial to a Medical Man

A bed in the male surgical ward of Grimsby Hospital has been endowed in memory of Dr. T. Newby, the first medical officer of health for the borough, by his cousin, Mr. Bromley, of Plymouth. Mrs. Bromley has endowed a second bed in memory of Dr. Newby's parents.

Tewkesbury Hospital

Princess Alice, Countess of Athlone, recently laid the foundation-stone of the new hospital at Tewkesbury. It is to be a single-storied building with two general wards with accommodation for eight beds each. There will also be two private wards.

Medical Diary

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

THURSDAY, Nov. 1st.

Tropical Diseases and Parasitology. 8 P.M. Dr. E. G. Sayers: Tropical Diseases in the British Solomon Island Protectorate. Dr. R. C. Robertson: Field and Laboratory Work in Schistosomiasis Japonica (Bilharziasis) in China.

FRIDAY.

Otology. 10.30 A.M. (Cases at 9.30 A.M.) Mr. E. A. Peters: Infection of the Eustachian Tube and Pulmonary Tract. (Presidential address.) Mr. C. S. Hallpike: The Physiology of the Tympanic Muscles.

Laryngology. 5 P.M. (Cases at 4 P.M.) Discussion on The Laryngeal Paralyses: Miss U. Fielding, Mr. C. A. Joll, and Dr. George Riddoch.

Anæsthetics. 8.30 P.M. Dr. H. P. Crampton: Factors, apart from Anæsthetics, which Influence Anæsthesia. (Presidential address.)

EUGENICS SOCIETY.

TUESDAY, Oct. 30th.—5.15 P.M. (at the Rooms of the Linnean Society, Burlington House, Piccadilly, W.), Prof. H. Muckermann: The Eugenic Movement in Germany.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital.

FRIDAY, Nov. 2nd.—8.45 P.M., Clinical and Pathological Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East, S.W.

THURSDAY, Nov. 1st.—5 P.M., Dr. J. H. Sheldon: Hæmochromatosis. (Bradshaw lecture.)

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn-fields, W.C.

MONDAY, Oct. 29th.—Mr. C. P. G. Wakeley: Tumours of the Intestinal Tract.

FRIDAY, Nov. 2nd.—Dr. John Beattie: Functional Anatomy of the Pituitary Gland.

UNIVERSITY OF LONDON.

MONDAY, Oct. 29th.—4.15 P.M. (University College Hospital Medical School), Prof. Charles Singer: Three Phases in the History of Scientific Medicine: (3) Boerhaave.

WEDNESDAY and FRIDAY.—5.30 P.M. (University College Hospital Medical School), Prof. Ludwig Fraenkel: Forty Years of Gynæcological Endocrinology.

THURSDAY, Nov. 1st.—5 P.M. (1, Wimpole-street, W.), Mr. Herbert Tilley: Inflammation of Maxillary Antrum and other Accessory Sinuses. (Semon lecture.)

THURSDAY and FRIDAY.—5.30 P.M. (Royal Free Hospital, W.C.), Prof. George Barger: Chemical Questions relating to Pharmacology.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, Oct. 29th to SATURDAY, Nov. 3rd.—WEST END HOSPITAL FOR NERVOUS DISEASES, Welbeck-street, W. All-day course in Neurology.—CITY OF LONDON MATERNITY HOSPITAL, City-road, E.C. Week-end course in obstetrics.—MEDICAL SOCIETY OF LONDON, Chandos-street, Cavendish-square. Tues. 2.30 P.M., Dr. A. E. Clark-Kennedy: Headache Wed., 8.30 P.M., Dr. Leonard Findlay: Diet of Infants.—CHELSEA HOSPITAL FOR WOMEN, Arthur-street, S.W. Course in gynæcology.—Courses are open only to members and associates of the Fellowship.

NATIONAL HOSPITAL, Queen-square, W.C.

MONDAY, Oct. 29th.—3.30 P.M., Dr. E. A. Carmichael: Physiology of the Sympathetic System.

TUESDAY.—3.30 P.M., Dr. M. Critchley: Cranial Nerves and Spinal Senses (1).

WEDNESDAY.—3.30 P.M., Dr. James Collier: Clinical Demonstration.

THURSDAY, Nov. 1st.—Dr. Critchley: Cranial Nerves and Spinal Senses (2).

FRIDAY.—Dr. Bernard Hart: The Psychoneuroses.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.

WEDNESDAY, Oct. 31st.—4 P.M., Dr. H. V. Morlock: Treatment of Some Acute Pulmonary Diseases.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

FRIDAY, Nov. 2nd.—4 P.M., Mr. W. G. Scott-Brown: Œsophageal Obstruction.

ST. PAUL'S HOSPITAL, Endell-street, W.C.

WEDNESDAY, Oct. 31st.—4.30 P.M., Mr. W. K. Irwin: Some Important Prostatic Diseases, their Diagnosis and Treatment.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY, Oct. 30th.—5 P.M., Dr. H. W. Barber: Psoriasis.

THURSDAY.—5 P.M., Dr. W. Griffith: Eczema. (Chesterfield lectures.)

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE Hammersmith, W.

MONDAY, Oct. 29th.—10 A.M., medical wards, skin clinic 11 A.M., surgical wards. 2 P.M., surgical wards, gynæcological wards, eye and gynæcological clinics. 4.15 P.M. Mr. Green-Armytage: Pelvic Inflammation.

TUESDAY.—10 A.M., medical wards. 11 A.M., surgical wards. 2 P.M., throat clinic. 4.15 P.M., Dr. Konstam: Diabetes Mellitus.

WEDNESDAY.—10 A.M., childrens' clinic. 2 P.M., medical wards, eye clinic. 3.45 P.M., venereal diseases demonstration.

THURSDAY.—10 A.M., gynæcological and neurological clinics. 11.30 A.M., fracture demonstration. 2 P.M., eye and genito-urinary clinics. 4.15 P.M., Mr. Steadman: Periodontal Disease.

FRIDAY.—10 A.M., skin clinic. Noon, lecture on treatment. 2 P.M., throat clinic.

SATURDAY.—10 A.M., childrens' and surgical clinics, medical wards.

The lectures at 4.15 P.M. are open to all medical practitioners without fee.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James' Hospital, Ouseley-road, S.W.

WEDNESDAY, Oct. 31st.—4 P.M., Dr. W. E. Lloyd: Differential Diagnosis and Treatment of Cases of Severe Anæmia.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL, Denmark-hill, S.E.

THURSDAY, Nov. 1st.—9 P.M., Sir Charlton Briscoe: Pleurisy.

CHARING CROSS HOSPITAL MEDICAL SCHOOL, W.C.

SUNDAY, Oct. 28th.—10.30 A.M., Mr. E. D. D. Davis: Meningitis arising from the Ear and Nose. 11.45 A.M. Dr. K. Shirley Smith: Pericarditis.

INSTITUTE OF HYGIENE, 28, Portland-place, W.

WEDNESDAY, Oct. 31st.—3.30 P.M., Mr. R. Scott Stevenson: Prevention of Deafness.

RED CROSS SOCIETY'S CLINIC FOR RHEUMATISM, Peto-place, N.W.

THURSDAY, Nov. 1st.—9.30 P.M., Dr. B. S. Nissé Ætiological Factors in the Causation of Rheumatism.

ANCOATS HOSPITAL, Manchester 4.

THURSDAY, Nov. 1st.—4.15 P.M., Mr. E. S. Brentnall: Injuries of the Quadriceps Mechanism.

MANCHESTER ROYAL INFIRMARY.

TUESDAY, Oct. 30th.—4.15 P.M., Mr. P. R. Wrigley: Hæmaturia.

FRIDAY, Nov. 2nd.—4.15 P.M., Dr. J. Wharton: Demonstration of Ophthalmic Cases.

MANCHESTER HOSPITAL FOR CONSUMPTION and Diseases of the Ear, Nose, Throat, and Chest.

WEDNESDAY, Oct. 31st.—4.15 P.M., Dr. H. R. Clarke: Emphysema.

LEEDS GENERAL INFIRMARY.

TUESDAY, Oct. 30th.—3.30 P.M., Dr. J. T. Ingram: Demonstration of Dermatological Cases.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.

WEDNESDAY, Oct. 31st.—4.15 P.M., Dr. H. G. Garland: Diagnosis of Organic Nervous Disease.

NOTES, COMMENTS, AND ABSTRACTS

THE RADIOLOGIST AS PHYSICIAN*

By F. HERNAMAN-JOHNSON, M.D.

HON. RADIOLOGIST TO THE FRENCH HOSPITAL, LONDON; PHYSICIAN IN CHARGE OF RADIOTHERAPEUTICS, CROYDON GENERAL HOSPITAL

AT the recent meeting of the British Medical Association at Bournemouth, Dr. Le Fleming, speaking from the general practitioner's point of view on the value of radiology in diagnosis and treatment, advocated a more close and personal contact between the radiologist and the family doctor. He said that the present relationship fell somewhere midway between the ideal of the medical consultation and the more remote pathological report. He added the ominous opinion that the trend of affairs was, on the whole, away from that personal contact which he advocated.

If Dr. Le Fleming is correct in this view—and I am afraid there is truth in what he says—then I venture to say it is a bad thing for radiology and for medicine in general.

Laboratory Diagnosis in Radiology

The term "laboratory diagnosis" may be applied to any method which does not call for personal examination of patients. There can be no doubt that a large part of radiodiagnosis as carried out at hospitals comes within this definition. There is no essential difference between the radiological report on a film and the pathological report on a microscopical slide.

This tendency towards laboratory diagnosis in X ray work was not at first evident. In the early days of X rays the man unquestionably dominated the machine. Many of the pioneers, such as Williams, of Boston, were distinguished physicians before they devoted themselves to the new method, and the fact that radiography of moving organs was then impossible made screen work by the physician essential for the chest and alimentary tract. X rays were at first largely aids to direct clinical examination, and were employed by persons who continued to rely to a great extent on older and well-tried clinical methods.

With the increasing power and complexity of apparatus there arose a new type of radiologist, who was often attracted to the specialty solely because he had a liking for mechanics. The machine began to dominate the man. The first object became, in a literal sense, the production of "more, bigger, and better" radiographs. The 12 × 10 in. film gave way to the 15 × 12, and this to still larger sizes. Speed and definition increased at the same time. The second object was to interpret the films. The "direct evidence" school, as opposed to the continental school which believed in diagnosis by symptom complexes, no doubt made radiodiagnosis more nearly approach an exact science; but, at the same time, tended to divorce it from clinical medicine. The slogan "show it to me on a plate" served a useful purpose, so long as new findings were being continually demonstrated, interpreted, and classified. But inevitably there came a slowing-down of this process. The work of exploring and charting the mountains, rivers, and oceans of this new country came to an end, and there now remain only remote streams and valleys where the explorer may still find something new. To leave aside metaphor: 99 out of every 100 films seen in an average day's work in the radiodiagnostic department of a large hospital can be interpreted according to a well-established routine. I have no hesitation in saying that an intelligent person occupying the post usually referred to as "sister X rays" could, after a few years' experience, almost replace the radiologist so far as the actual reading of films is concerned. The illness of my junior once compelled me to accept a suggestion of the sister-in-charge that, to save time, she should write reports in advance, leaving it for me to read and sign them only. It was a humbling and a chastening experience which I can recommend to anyone who may suspect himself of spiritual pride. I do not, of course, mean to suggest that an X ray department could be run in this fashion indefinitely; but if we think of an out-patients' department in charge of a competent physician, it is impossible to imagine its being carried on with any degree of efficiency even for a single day without him.

An All-round View of the Patient

Considerations such as the above tend to show that the radiologist must beware lest he become a mere interpreter of film images, no matter how skilful. That he should see all the patients in a crowded hospital department is a manifest impossibility, but he should personally examine chest patients and alimentary-tract cases, and so far as the exigencies of a busy life permit, attend operations and visit the post-mortem room. When he cannot do this, he should adopt some method of being kept informed as to the results.

It is to be hoped that the time will never come, although there are some who visualise it, when there will be no private practice in radiodiagnosis. For it is in private practice that the radiologist has the greatest opportunity to let the physician which is in him—or which, at any rate, *ought* to be in him—live for a time on equal terms with the specialist. Let him carefully take the histories of all his patients, and he will not seldom hear things of importance which have not been elicited by anyone else. For it is a fact that, apart from neurasthenics who have their whole case written out on paper, patients will rarely give precisely the same history to two different men.

The history may suggest that a patient who has been sent for examination of the alimentary tract is in reality suffering from some trouble in the chest—or vice versa. It is, of course, the duty of the radiologist to carry out the examination requested; as to what he should do in addition, he must use judgment and tact. I recall upon an occasion many years ago being asked to examine the lungs of a patient for tuberculosis, as he was very breathless. It was at once evident on screen examination that the trouble was cardiac. I reported to this effect, and was told by the doctor concerned that "he wanted a 'picture' of the patient's lungs, and would I please mind my own business as regards his heart." Such an attitude is now fortunately rare, but not wholely unknown. Its absurdity is evident when we consider that it is equivalent to sending a patient to a consulting physician with a request to palpate the abdomen, but on no account to put a stethescope on the chest.

The arts of inspection, percussion, and palpation should never be lost. Inspection may show a hitherto unnoted skin nodule, a patch of pigment, a forgotten operation scar, an area of pulsation, or some other valuable guide as to what should be particularly looked for in the radiographic examination. The necessity of palpation in conjunction with the opaque meal or enema hardly needs emphasising, but the finding of an enlarged spleen may give the clue to an unexplained hæmatemesis or melæna.

The practitioner who resents the radiologist taking an all-round view of his case, will eventually drift to someone who gives him exactly the kind of radiological service he deserves. If he alone were concerned, that would be of little consequence. But it is hard on his patients, and therefore the psychology of the matter is worth considering.

* Presidential address to the section of radiology of the Royal Society of Medicine on Oct. 19th.

I think that subconsciously his mental processes are something like this: "Except in the reading of X ray films this man is no more competent that I am to deal with this case, and his doing some of the things which I have already done, or could have done lets me down in the eyes of my patient." Note that the same man does not resent the consulting physician palpating a case that he himself has already palpated, or feel humiliated if something is discovered which he has missed. This brings us to a very important point. If the diagnostic radiologist wishes to hold his own in the future—if he wishes to remain a free swimming organism, and not settle down to a sessile stage in the confines of a laboratory—he must be as highly qualified as the consulting physician. As a young man he should seek house appointments where extremely valuable general experience can be found, and should take a higher medical qualification either before or after, but preferably before, taking one of the special radiological diplomas. I have noted of late a tendency to regard a higher medical qualification as essential for certain radiological appointments. It is an excellent innovation and should be encouraged by radiologists as a body.

Then there is the question of all-round knowledge of a special subject. For instance, a new form of comparative pathology is called for. It is not enough for a man to know the radiographic appearance of certain diseases: he should be equally familiar with these diseases in their clinical and pathological aspects. This ideal has been lived up to by some, and the appointment of a radiologist as Hunterian professor at the Royal College of Surgeons is a good omen for the future.

An All-round View of Medicine

There is yet another reason why it is of extreme importance that radiologists interested in diagnosis should keep in touch with medicine as a whole. Diagnostic radiology to-day is in much the same position as surgery—it is unlikely to make any great advance unless helped by some extraneous discovery. In the sixties of the last century surgeons had conceived, and in many cases attempted, most modern operations; but sepsis continued to defeat them. Then came Pasteur, a chemist, with his work on fermentation; and Lister, a practising surgeon. Such a combination is essential. Had Lister confined himself to acquiring technical skill as a surgeon, he might never have heard of Pasteur's work, much less applied it, and so made possible the surgery of to-day. Similarly we need radiologists who are always alert to apply discoveries in other fields.

The gall-bladder demonstrations which we are now able to carry out are not the result of direct investigation. The study of the concentration of certain compounds in the gall-bladder was begun as a biochemical research. But it occurred to a radiologist who knew of these experiments that the substitution of bromine or iodine for chlorine in the formula might result in the concentration in the gall-bladder of a substance opaque to X rays. Cholecystography and intravenous pyelography are the only advances in radiodiagnosis which were not foreseen by one or other of the early workers. In a book published by Williams, of Boston, in, I think, 1899, you will find practically everything else referred to, notably instantaneous radiography and opaque meal examinations. At the moment nothing appears on the horizon except elaboration of existing processes. Let us pray for a biochemist to discover something of value to us, and for a radiological Lister capable of seizing upon the discovery to lighten our darkness.

The Specialty of Method: its Limitations and Dangers

Now, if it is important for those of us who practise diagnosis to be physicians before they are radiologists it is, if that be possible, a matter of even greater moment for those who profess and call themselves therapists. To paraphase slightly a well-known jibe, the time has gone by for complacently pouring rays of which we know little into a body of which we know nothing. So far, radiotherapists have shared with surgeons the unique distinction of being specialists in a method. They have reached their present none too secure position because therapeutic apparatus has been continually advancing in power, and because technique has been in a fluid state. But there are now signs of stabilisation, and the modern dosimeter has made it safe for lay assistants to apply routine prescriptions. Radiotherapeutists who are inclined to be complacent, should study the history of electrotherapeutics in this country. A decade ago it reached the stage of standardisation; from that time onwards it has passed more and more into lay hands. The medically qualified man who confined himself to carrying out the actual technique of electrotherapy has been crowded out; with few exceptions, only those who have established themselves as physicians interested in a class of diseases known to be benefited by electrotherapy have survived. I fear for radiotherapeutists a similar extinction unless, like the wise men just referred to, they take steps to consolidate their position.

There are three possible forms of specialisation in medicine.

(1) There is the specialty of method, as exemplified by the surgeons; also to some extent by the vaccine therapists, electrotherapeutists, radiotherapeutists, and one might perhaps add the osteopaths.

(2) There are the regional specialties—the eye, the ear and throat, urinary system, &c. The ophthalmologist, the laryngologist, the urologist, the gynæcologist are concerned with a particular set of organs, and consider themselves free to use any method of treatment which seems to them good. Many are fellows both of the College of Physicians and the College of Surgeons; the limitations which custom imposes upon them are topographical, not therapeutic.

(3) There are specialists connected neither with therapeutic methods nor with particular regions of the body, but with diseases as such. Experts in tuberculosis, in rheumatism, and in tropical diseases are examples.

It is with the first and third categories that radiologists should concern themselves. There is so far no instance of a "specialty of method" pure and simple having survived. If surgery be instanced, it can at once be pointed out that it survives because it invades the third group—namely, that of specialties in particular diseases. That some surgeons fully realise this is evident from their publicly expressed opinions. All radiotherapeutists should read the address given by Mr. Geoffrey Keynes to the Royal Medical Society of Edinburgh in February last, on the Future of Surgery. (THE LANCET, 1934, i., 1043.) Speaking of cancer he said:

> "So large a proportion of surgical activity is taken up with cancer that its removal from the sphere of surgery would cause an enormous hole in the surgeon's day. Moreover, it appears to me that if this is ever to happen at all it will happen suddenly.... The cancer problem ... is partly a biochemical one, and the process of experimental cancer production is so nearly perfected that the successful reversal of the process may not be so far distant as we are often inclined to suppose. Surgery can often deal successfully with the primary cancerous growth when it is accessible. *It is by the inaccessible parts of the disseminated disease that we are so constantly defeated.* [Italics mine.] Cancer disseminates by the circulation, whether it be by blood-vessels or lymphatics, and perhaps it is by the same route that it will ultimately be attacked, particularly if a biochemical cause leads to the discovery of a biochemical cure."

Such is Mr. Keynes's vision of the future, and I think few will disagree with him. Note, however, the consolation which he proceeds to offer to his colleagues. He says: "Those surgeons who are sufficiently adaptable may be able to add the biochemical method to their repertory, for after all it will still be the surgeons who will make the diagnosis

and have much of the responsibility for the treatment of the patients." A little later in his address, however he seems to have had doubts about the matter, for he says, speaking of the advance of radiotherapeutics: "This process of encroachment will not stop, and perhaps in the end it will be the radiologists and not the surgeons who will receive the rudest shock from the cry that 'cancer is conquered.'"

Now, while it may in some cases be inevitable, it is on the whole, a bad thing for any body of medical men to be wholely dependent upon a single method of treatment. Human nature being what it is, such a state of affairs may conceivably clog the wheels of progress. I suggest to the younger radiologists who are interested in therapy that they should concentrate on those diseases in which radiotherapy constitutes the chief, or at any rate a very important part of their treatment. Cancer of the breast is an excellent example. I think unbiased observers must admit that in this condition radiation is now of an importance at least equal so that of surgery. It should therefore be the aim of radiologists to become the leading authorities on the disease. They will not attain this position by concentrating on the precise means by which to apply X rays or the radium "bomb," any more than surgeons reached their standing solely by skill in the performance of the radical operation. In the past, surgical writings have been the source of practically all that is known of breast cancer—its ætiology, pathology, diagnosis, and treatment. Unless and until the radiologist knows as much about every aspect of breast cancer as does the surgeon—apart of course, from operative technique—he must not expect the medical and lay public to recognise him as the principal person to have charge of a case.

Radiologists have at the moment an opportunity to study breast cancer from a new aspect. The deadliness of this disease lies in its metastases. When once these are clinically evident, though much may still be done, the patients life is ultimately forfeit. If, however, we could get warning of an outbreak at the pre-clinical stage, we might perhaps do something useful. It is claimed by certain biochemists that the vanadic acid sedimentation test is capable of giving such a warning, by showing the blood picture to be moving in an abnormal direction. How long the warning is ahead of the active mischief we do not yet know, nor whether the seeming danger signal is always justified.

Confining oneself to facts which appear well authenticated one can say—that most breast cases show an abnormal blood at the time of diagnosis; that with the removal of the primary growth whether by operation or radiation the reaction becomes normal in some cases; and remains or again becomes abnormal in others; and that it can in many instances be brought back again to normal by widefield X-ray treatment of low intensity. The effect is constitutional and must be sharply distinguished from intensive methods designed to produce a local reaction. We do not know for certain whether metastases can develop in the face of a blood normal to the vanadic acid test, but the investigation, linking up as it does radiology with biochemistry, would seem to be worth pursuing.

Training of the Radiotherapist

It is obvious that our colleagues, and more especially those who are in general practice, will not accept us as authorities on certain diseases—even when radiotherapy is admitted to be of prime importance in their treatment—unless by training and qualification we can inspire confidence. At least three years spent in house appointments would seem desirable, and although it may perhaps be a counsel of perfection, a year in general practice would be of the utmost value. At the end of this time, a higher medical qualification should be aimed at.

With regard to the more technical side of radiological education I am in agreement with Dr. R. S. Paterson who, in his presidential address last year, expressed a doubt as to whether the enthusiasm for physics was not being carried a little too far. It is not that any of us could know too much physics, but when time is limited, as it must be, one has to consider its value in relation to other studies. For instance, there is biochemistry, which I feel will become of increasing importance to the radiotherapeutist. And there is the general pathology and clinical aspect of diseases amenable to X ray treatment. Concerning a physical problem we can always consult a physicist; but faced with a patient we must depend on ourselves.

Dr. Paterson, in his address referred to the matter of a higher diploma in radiology—which he said would have to be seriously taken up in the future. It is already the future by 12 months, and, in my opinion, it is time that some preliminary steps were taken to realise this ideal. The first of these steps, which must be taken by radiologists themselves, might perhaps be the provision of some form of recognition for those who have done original work of value to radiology.

In conclusion, if anyone says that the road I have outlined is too hard a one for the neophyte to read, I would remind him of the old proverb which says that, "he who wills the end must also will the means"; or, if a classical quotation be preferred, *per ardua ad astra*.

ACID METABOLISM IN RHEUMATIC CHILDREN

Dr. W. W. Payne approaches the theory of an "acid diathesis" in juvenile rheumatism in a new way (Arch. Dis. Child., August, 1934, p. 259). He argues that in a normally functioning body a difference in the acid-base balance of the blood may well be beyond the capacity of ordinary methods to detect, owing to the efficiency of the excretory organs. Of these the kidney is the most important and Dr. Payne has tried to get evidence of an increased acid excretion in the urine in a group of rheumatic children attending a hospital rheumatic clinic. For controls, since normal children do not attend hospital out-patient departments regularly, he took two other groups of children, one attending an asthma clinic and one in a residential school but in normal health. In all three groups three specimens of urine were obtained by supplying labelled bottles containing small quantities of toluene. The children were instructed to bring samples of the urine passed on rising, after breakfast, and on going to bed on the day before attendance at hospital, or at a suitably convenient time for the residential children.

The urine was then examined for specific gravity, hydrogen-ion concentration by means of indicators, free acid, ammonia, chlorides, phosphate, and urea. The difficulty of knowing the total quantity of urine passed was got over by using as final results the titration value of acid, alkali, and ammonia expressed as c.cm. of N/10 solution per 100 c.cm. divided by the percentage of urea. The phosphate value has also been corrected for adventitious changes in volume. Two other ratios have been used: R, an ammonia-acid ratio indicating how much acid has been neutralised by ammonia, increased where acid excretion is increased, and P, a ratio between phosphorus and total free acid, which varies directly with the phosphate and inversely with the amount of organic acid present.

Both by frequency curves and by statistical methods Payne shows that free acid and total acid were excreted in greater amount by the rheumatic and asthmatic children in all three specimens. From comparison of the three specimens it is seen that the normal child has a less conspicuous alkaline tide in the after-breakfast specimen, and the second specimen shows a difference of pH for the normal group which is statistically significant. It appears legitimate to conclude that there is an increased excretion of acid by the children in the rheumatic and asthmatic groups. Unknown to Dr. Payne the asthmatic children were receiving hydrochloric acid in relatively large doses as a therapeutic measure, and when an allowance is made for this in the results the asthmatic group approaches closely to the normal group. This

not only helps to get over the possible criticism that the normal group, being residential in a school and subject to differences of diet and environment, is not strictly comparable as a control group, but it also leaves the rheumatic group alone as excreting more acid because of some essential difference in the biochemistry of the patients.

Dr. Payne concludes that the rheumatic child in a quiescent interval excretes more acid than does either an asthmatic or a normal child. This excess production of acid is insufficient to disturb the equilibrium of the blood.

ANGIOKERATOMA

THE syndrome to which the name of angiokeratoma, or telangiectatic warts, is applied was described by Mibelli in 1889. The patient is usually a young woman, often tuberculous and with a history of winter chilblains or other sign of circulatory weakness, and the condition is an eruption distributed on the dorsal surfaces of the hands and feet. Histologically, the lesions are composed of a nævoid mass of dilated papillary vessels, with hypertrophy of the overlying epidermis (hyperkeratosis, granulosis, and acanthosis). In a case described by L. E. Pierini and N. O. Sánchez Basso (Semana méd., 1934, xli., 1940) the sufferer was a girl of 20, who had had hæmoptysis at the age of 17. The disease became evident when she was 7, affecting the hands only. At first there were chilblains, recurring each winter, and then the characteristic eruption began to appear. Physical examination disclosed a marked 'habitus phthisicus,' acrocyanosis, and signs of pulmonary tuberculosis, which X ray examination confirmed. The hands were small, with tapering fingers, the terminal phalanges especially being extremely slender, and there was ankylosis of the terminal joint of the right little finger, radiography revealing areas of decalcification. The eruption was irregularly distributed on the distal part of the hand and the fingers, and was almost confined to the dorsal surface. The spots were purplish, varying in size from a pinpoint to a pea, disappearing on pressure with a glass slide, and rough to the touch. Histological examination of an excised lesion confirmed the diagnosis.

"KEY OF ALL WALES": A SEQUEL

WE have received from the office of the *Western Mail and Echo* a pamphlet written by Sir John Lynn-Thomas in continuation of work published two years ago and recording researches made during the previous four years on the estuary of the river Tefi. These pointed to a Phœnician occupation of the country between 1500 and 1000 B.C. Clearly only a skilled archæologist can decide on the value of the discoveries and we cannot presume to judge between Sir John and various sceptical authorities of whose attitude he complains in vigorous terms. The pamphlet is very detailed and it is obvious that the author has taken infinite pains to verify his theories. He concludes with a statement that Wales is in dire need of a professor of archæology in its University and of research workers who, speaking colloquial Welsh, would be able to obtain first-hand information from the inhabitants.

THE SPASTIC CHILD

A LITTLE book,[1] written by the mother of two spastic children, is a record of persistent and successful effort to overcome the disability of Little's disease. The account of the method by which this result was achieved is of considerable therapeutic interest. Mrs. Fischel's first child was a severe case and died in early childhood. In the second the disease took a milder shape, and appears to have escaped diagnosis in the first few years. At the age of four energetic treatment was started and carried out, for the most part by the author herself, until at the age of 16 the disablement had been reduced to comparative insignificance. The methods adopted are described in full, and illustrated by excellent diagrams. By far the best part of the book is the description of relaxation and speech exercises. The author's object is to give assistance to parents of spastic children, and from this standpoint the book must be judged. It should bring conviction and encouragement to those who are inclined to doubt that so great a measure of cure could be attained. On the other hand, the procedures described could, we think, be improved upon in a few ways, and the treatment in the early years rendered less exacting. But if used as a supplement to detailed medical instructions this book should be extremely helpful to parents.

[1] The Spastic Child. By Marguerite K. Fischel. London: Henry Kimpton. 1934. Pp. 97. 6s.

NEW PREPARATIONS

ACETYLCHOLINE BROMIDE.—A sterile stable solution of this substance has been issued by Burroughs Wellcome and Co., Snow Hill Buildings, London, E.C., as a "Hypoloid" product. It is issued in "Hypoloid" ampoules, each presenting 0·1 g. in 1 c.cm. in boxes of 10. (The following notice is enclosed in the sample box which has reached us. "As the ampoules are shorter than formerly, they may be found to slip out of the rack when used in the No. 62 'Hypoloid' Case. This can be overcome by the use of paper tubes supplied free on request.")

Acetylcholine is the acetyl ester of choline. It has been isolated in chemically recognisable quantities from the spleen and from the placenta, and is present in minute traces in other organs. It is highly active; dilutions of one in a million millions in the blood of the cat will produce a transitory fall of blood pressure. Its action is evanescent, as it is rapidly hydrolysed to acetic acid and choline in blood and tissues. The drug is usually administered by intramuscular injection and has proved successful in counteracting paralysis of the intestine such as occurs after laparotomy and intestinal operations. It may be used to relieve severe post-operative gas distension and pain, and has been found to relieve acute constipation and to be of value in certain types of vascular disturbances associated with arteriolar spasm.

VALERIAN-DISPERT AND DESITIN OINTMENT.—We have received these two preparations from Messrs. Coates and Cooper, Clerkenwell-road, E.C., acting as distributing agents for the foreign manufacturers. The desitin ointment is a preparation of cod-liver oil, vaseline, lanoline, oxide of zinc, and purified talc, and has proved of service as a dressing for skin lesions, such as eczema and sunburn, and also in varicose ulcers and bedsores. Valerian-dispert is a preparation of valerian compounded in accordance with the desiccation process—the Krause process—which is described in literature accompanying the preparation. It is claimed that this process provides for stability in the preparation and for certainty of dosage. Valerian-dispert is made up in small dragées, and is recommended for prescription in all circumstances where valerian is well known to be useful; these are numerous and a convenient mode for the exhibition of the drug should be of practical value.

MINTOES.—We have received from Messrs. William Nuttall Ltd., Doncaster, specimens of a sweetmeat for which they claim the advantage of particular purity. The sweets are a combination of butter, treacle, and sugar. The day has gone by when nauseous preparations were commonly prescribed; there are, however, useful medicines that children definitely dislike, and here the bribe of a pure sweetmeat may be of service.

LEMON BARLEY WATER.—We have received from Messrs. L.B.W., Ltd., of 41, Eastcheap, London, E.C. 3, samples of a concentrated fluid prepared from lemons and pearl barley, from which a palatable beverage can be made by the addition of three parts of water. No endorsement is needed of the claim made by the manufacturers that lemon barley water is a wholesome and efficient thirst-quencher. The L.B.W. preparation is supplied in air-tight screw-capped bottles, with the statement that it can be kept on hand with safety as it does not deteriorate.

A DIET BOOK

IT is a happy sign of the increasing general interest in nutrition that books on food, both from the gastronomic and medical points of view, are appearing in profusion. An excellent example of the semi-medical book in which the choice of medical authorities is catholic and the wisdom of the practical housewife supplements their dicta has been edited by Mrs. Alec Rea, and has now reached its second edition.[1] The sections dealing with the dietetics of constipation, gout, obesity, and ketogenic diets are admirable. Of more questionable utility are those devoted to gastritis, hypertension, and rheumatism; surely no expert would suggest that the dietetics of these particular troubles are as yet on any firm basis, and there is a danger that the attractiveness of this volume may encourage an unjustifiable dogmatism amongst patients and practitioners interested in these subjects. Mrs. Rea has been at pains to indicate the origin of each dietary suggested. The second part of the book contains useful recipes and tables which supplement the first part and the whole forms a valuable little book.

A LONDON physician—and probably others are in the same case—has received a postcard from Dr. Th. Fr. Lehmann, the object of which appears to be the boom of Bad Nauheim. He says of Bad Nauheim that it is "the best place in the world against heart-diseases, especially beautifull in this summer being free from the owfull jewish people." We feel that Dr. Lehmann is employing a poor method of advertising the amenities of a well-known spa and one where, as yet, English physicians have believed that the object of the doctors was to cure disease and not to act as agents for idiotic racial propaganda. We recommend to physicians in Bad Nauheim that they should curb Dr. Lehmann's enthusiasm, which cannot serve the advancement either of scientific medicine or of amicable professional relations.

Appointments

BURNIER, E. E., M.D. Lausanne, D.L.O., has been appointed Visiting Surgeon for diseases of ear, nose, and throat at the Royal Sea-bathing Hospital, Margate.

DODDS, R. L., M.Ch. Belf., F.R.C.S. Eng., M.C.O.G., Senior Assistant Obstetric Surgeon to the Jewish Maternity Hospital.

EDDIE, T. STIRLING, M.B. Melb., Honorary Assistant Physician to the Hull Royal Infirmary.

PARKER, HARRY LEE, M.B. Dub., M.S. Minnesota, Physician to the House of Industry Hospitals, Dublin.

Vacancies

For further information refer to the advertisement columns

Association of Surgeons of Great Britain and Ireland.—Surg. Scholarship. £350.

Bath and Wessex Children's Orthopædic Hospital, Combe Park.—H.S. At rate of £120.

Birmingham, Selly Oak Hospital.—Cas. O. At rate of £200.

Brighton, New Sussex Hospital for Women, Windlesham-road.—H.P. £100.

British Postgraduate Medical School, Whitehall, S.W.—Dean. £1800.

Cancer Hospital, Fulham-road, S.W.—H.S. At rate of £100.

Cardiff Isolation Hospital.—Asst. Res. M.O. £250.

Central London Throat, Nose, and Ear Hospital, Gray's Inn-road, W.C.—Third Res. H.S. At rate of £75.

Colchester, Essex County Hospital.—H.S. £120.

Colonial Medical Service.—Vacancies.

Connaught Hospital, Walthamstow, E.—Cas. O. At rate of £100.

Eastbourne, Princess Alice Memorial Hospital.—Physician.

Evelina Hospital for Sick Children, S.E.—Fourth Surgeon and Fourth Physician. Each 50 guineas.

Exeter City Mental Hospital.—Asst. M.O. £350.

Glasgow, Gartloch Mental Hospital.—Res. M.O. £300.

Godalming, County Sanatorium, Milford.—Second Asst. M.O. £450.

Guildford, Royal Surrey County Hospital.—H.S. £150.

Hertford County Hospital.—Hon. Asst. Physician.

Holland (Lincs) County Council.—Asst. M.O.H. £600.

Hospital of St. John and St. Elizabeth, 69, Grove End-road, N.W.—Anæsthetist.

Hostel of St. Luke, 14, Fitzroy-square, W.—Res. M.O. At rate of £200.

L.C.C.—Temp. Dist. M.O. £200, £125, and £300 respectively.

London Jewish Hospital, Stepney Green, E.—Res. M.O. and H.P. At rate of £150. Also H.S. and Cas. O. Each at rate of £100.

Maidstone Borough.—Asst. M.O. £500.

Manchester, Ancoats Hospital.—Cas. O. £250.

Manchester City.—Asst. Tuber. O. £650.

Ministry of Health, Whitehall, S.W.—Deputy Regional M.O. £800.

Newcastle-upon-Tyne, Barrasford Sanatorium.—Res. Med. Asst. £250.

Paddington Green Children's Hospital, W.—Hon. Surgeon to Ear, Nose, and Throat Dept.

Plymouth, Prince of Wales's Hospital.—Res. Surg. O. At rate of £170.

Prestwich, Manchester, County Mental Hospital.—Deputy Med. Supt. £750.

Reading, Royal Berkshire Hospital.—H.S. for Spec. Depts. At rate of £125.

Royal Free Hospital, Gray's Inn-road, W.C.—Two Asst. M.O.'s. Each £350.

Royal London Ophthalmic Hospital, City-road, E.C.—Out-patient Officer. Also Refraction Asst. Each £100.

Royal Surgical Aid Society, Salisbury-square, E.C.—Jun. Surgeon. 100 gns.

Shoreham-by-Sea, Southlands Hospital.—Asst. M.O. £250.

Society of Apothecaries of London, Water-lane, E.C.—Gillson Scholarship in Pathology. 100 gns.

Southampton, Borough Hospital.—Jun. Res. M.O. £200.

Stockport Infirmary.—H.P. £150.

Sutton, Surrey Downs Hospital for Children.—Asst. M.O. £350.

Swansea County Borough.—Asst. M.O. £500. Also Res. M.O. for Infectious Diseases Hospital. £350.

Wakefield, Middleton-in-Wharfedale Sanatorium.—Med. Supt. £900.

Warrington, County Mental Hospital, Winwick.—Asst. M.O. £500.

Warwick, King Edward VII. Memorial Sanatorium, Hertford Hill.—Sen. Asst. M.O. At rate of £275.

West Bromwich County Borough, Hallam Hospital.—Two Res. H.P.'s. Also one Res. H.S. All at rate of £200.

West London Hospital, Hammersmith, W.—Hon. Asst. Surgeon.

Winchester, Royal Hampshire County Hospital.—H.S. At rate of £125.

Worcester County and City Mental Hospital, Powick.—Asst. M.O. £350.

The Chief Inspector of Factories announces vacant appointments for Certifying Factory Surgeons at Kelvedon, Essex, and at Galashiels, Selkirkshire.

Medical Referee under The Workmen's Compensation Act, 1925, for the Birkenhead and Runcorn County Court Districts (Circuit No. 7). Applications should be addressed to the Private Secretary, Home Office, Whitehall, London, S.W.1, before Nov. 6th.

Births, Marriages, and Deaths

BIRTHS

BARNES.—On Oct. 13th, at Oxford, the wife of Dr. J. F. Lovel Barnes, Thame, Oxon., of a son.

CARMICHAEL.—On Oct. 14th, at Dairy, Kirkcudbrightshire, the wife of Lindsay Gordon Carmichael, M.B. Edin., of a daughter.

NOBLE.—On Oct. 17th, at Clifton, Bristol, the wife of J. Innes Noble, M.B. Liverp., of a daughter.

PRICE.—On Oct. 17th, the wife of Roy Kemball Price, M.D. Lond., of Brighton, of a son.

MARRIAGES

FLEMING—COWARD.—On Oct. 16th, at St. Nathaniel's Church, Cotham, Bristol, Alan McK. Fleming, M.B. Lond., to Dorothy S. Coward.

MACGREGOR—TOBISSON.—On Oct. 18th, at Harborne Parish Church, Birmingham, Robert Gordon MacGregor, M.B. Oxon., to Ruth Adele Tobisson.

DEATHS

BOND.—On Oct. 14th, at a nursing-home, Newton Abbot, Devon, Barnabus Mayston Bond, M.R.C.S. Eng., D.P.H., in his 74th year.

HORTON.—On Oct. 10th, at Weymouth, Thomas Horton, M.D. (late of Torquay), in his 79th year.

MCDOUGALL.—On Oct. 23rd, at Nottingham-road, Croydon, Mary Ross McDougall, M.B. Edin.

STEPHENSON.—On Oct. 16th, at 5, Combe Park, Bath, Owen Taunton Stephenson, M.R.C.S.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

WOOLWICH MEMORIAL HOSPITAL.—This hospital, which was opened in 1927, is to be extended at a cost of £50,000. It was erected to the memory of all local residents killed in the war. It is especially necessary to provide proper accommodation for the nurses, who are sleeping in rooms designed for domestics in an old cottage hospital, or in a house over 130 years old.

[1] The Diet Book for Doctor, Patient, and Housewife. Second edition. By Marguerite Regna Rea (Mrs. Alec L. Rea). London: Humphrey Milford, Oxford University Press. 1934. Pp. 210. 6s.